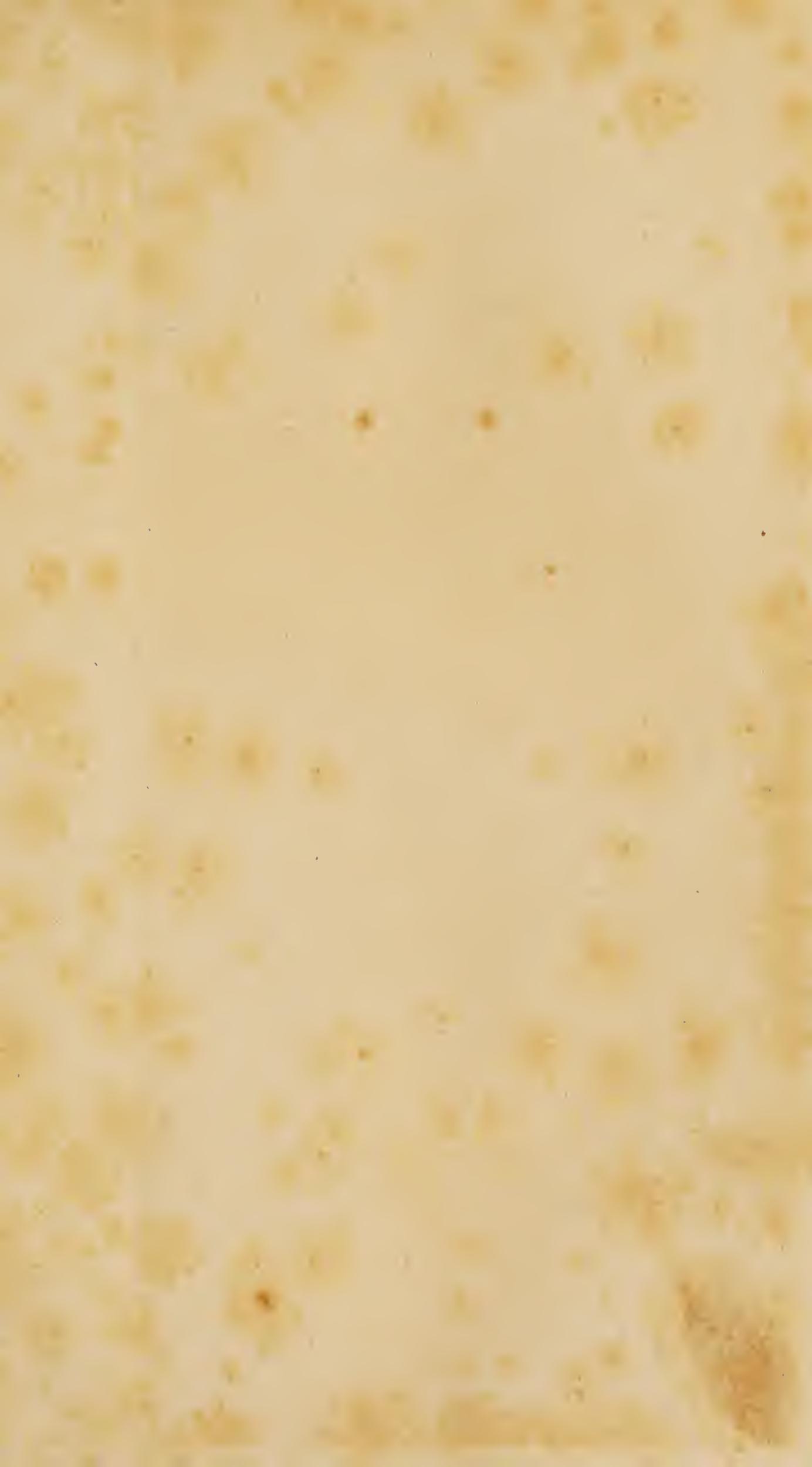


The title page features a large, ornate banner at the top with the text "THE PHRENOLOGICAL MAGAZINE". Below the banner, the volume information "VOLUME I NO. 1" and the date "JANUARY 1828" are displayed. A detailed illustration of a human head profile facing right is positioned on the left, with various phrenological lobes labeled with letters A through T and numbers 1 through 10. The background is dark blue with gold-colored decorative elements, including laurel wreaths and scrollwork.



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THE
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A JOURNAL OF
EDUCATION AND MENTAL SCIENCE.

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ALFRED T. STORY,

AUTHOR OF
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THE

Phrenological Magazine.

JANUARY, 1884.

THE RIGHT HON. EARL OF GRANVILLE, F.R.S., K.G.

GHE brain of this gentleman is of no ordinary size or power, and it corresponds with his well-balanced organization. Mentally and physically he is capable of doing a great deal of work with less fatigue than the majority of men. He is gifted with remarkable powers of intuition and critical perception ; he is what we call a farsighted man. Few things escape his notice that are connected with subjects in which he is interested. His mind grasps,



collects, and stores a great amount of information which, when alone, he reflects upon and reduces to its proper level. He has not a mind that readily jumps at conclusions before he has thoroughly weighed and considered every side of a subject. This is owing to his large Causality and Cautiousness, as well as to the general harmony of his mental faculties. In matters

of opinion, however, he can come to a definite point at once, and show all the probable issues, the pros and cons, the cause and effect, and should be known for the clearness of his arguments, and the accuracy of his deductions.

His reasoning brain is exceedingly active and largely developed, giving him the desire to search out first principles, ideas, and theories for himself. His judgment can be relied upon because of his sound logical reasoning; he will never give an opinion unless he can feel he has a good reason first for so doing.

His Comparison gives him great analytical discernment. He sees at once where an argument is not conclusive or rational, and perceives where the points of a debate fail to agree. Cautiousness inclines him to take a careful and guarded view of every outlet, and he is constantly thinking how to prepare and provide for future events and needs. He shows more than ordinary forethought and penetration, and does not allow prejudice or self-interest to be his guide.

He has a keen sense of the value of property, and knows how to make a proper use of money, showing at the same time how it can be spent to a good advantage without waste.

He is a man of principle, and cannot fail to inspire respect as a man, aside from his political opinions.

His sympathies exert an influence over his whole character, and give him a keen interest in the welfare of his fellow-creatures, in fact his Benevolence is one of his largest moral organs. He has a hospitable spirit, and is greatly opposed to any movement that has not at heart humanity in its broadest aspects.

While his greatest intellectual power lies in his reflective faculties, he is not wanting in practical observation. He shows method and system, and power of arrangement in everything he does as well as in everything he says.

In a word, he will be known for his executive spirit and love of justice; his sound practical judgment and far-sightedness; his keen intuition, accurate comparisons, and conclusive arguments; his great human sympathies for his fellow-creatures, and his great desire to elevate, improve, and reform the world; always striving to influence men to be purer and simpler in their lives and truer to their principles.

J. A. F.

"THE life of no human creature is without discontent; every one has his tribulations, and many a one, rather than be without them, will procure disquietness to himself. No man is content with that which God gives him."—*Luther.*

THE WANTS OF OUR CHILDREN.

How to properly feed and clothe our little ones is the primary consideration of every thoughtful mother. That they can be fed and clothed in an improper way with very little thought is a fact which is unfortunately too apparent. The child is constructed first to eat that he may grow; secondly he must be clothed that he may protect that growth; after these two things are done, not before, he is adapted to receive impressions that he may learn. But, alas! the little bit of humanity is looked upon as the pet of every one, and in consequence anything that can add to his attractiveness is thought to be legitimate, and so his bonny little arms and legs and neck are allowed to be uncovered the whole year round that they may be petted and kissed, or as some mothers erroneously think, to harden the child to the constant change of climate. We wish we might make our earnest appeal heard by every such mother in the country, and induce them all to put aside such feelings of vanity, or what is sometimes called natural pride, and emmulate in them a higher sense of the true needs of their children, by treating as a simple sanitary precaution the necessity of clothing all parts of the body equally well. High-necked and long-sleeved dresses, as well as long comfortable stockings, are the natural rights of children, and should be so regarded, and indulgent mammas who deviate from this course have yet to learn to see the beauty of a healthy child in its easy, untrammelled motion, as it moves about in a simple dress which is long enough to be warm and loose enough to be comfortable. Ask any mother who has studied physiology at all if she is not anxious to see health and grace combined in her child, and she will immediately answer in the affirmative; but these two elements cannot be found if the child is allowed to be continually chilled through exposure in so variable a climate. It is also a lamentable fact that the old fashioned flannel garments have been in so many instances replaced by the machine-made merino ones which are not equal to them for preserving warmth. But while it is so essential to study the proper thickness of clothing for children, the importance of rightly feeding them is closely akin to it. "What shall we give our children to eat?" should be carefully considered by every guardian of the young, and the oft-repeated expression, "Oh, it does not matter what the children eat so long as they have enough to satisfy their hunger," ought never to be heard again from the lips of any intelligent mother. To say the least, it is an injustice to the

little bits of humanity that they can be fed with less thought being expended over their food than what is given to some animals of the farm-yard. We have felt real pity for some children when we have seen the ill-chosen and ill-prepared food that has been placed before them to eat. And this has not been among families who are supposed to be ignorant of such domestic matters ; but the importance of seeing to these little matters has never occurred to them. The over stuffing with cakes, sweets, pastry, all tend to make a child fretful and debilitated instead of sturdy and strong, and they give very little material for building up a healthy constitution. Nourishing and strengthening foods are not studied enough, and glorious will be the days when more time and thought are given to the choice and preparation of food for our children ; for when they are all clothed and fed on more physiological principles, we may expect to see the percentage of sickly and delicate children considerable decreased.

Then the self-government of children is looked upon as something that must be learned at school along with mathematical problems. Alas ! how difficult is self-government taught to children when they go away from home for the first time, especially when they have been trained or allowed to believe that they have only to ask for what they want. Parents, friends, and teachers are all too indulgent, and all inclined to do too much for them. The child grows up feeling itself to be *the one* for whom every one else must give way. Is this one of the so-called rights of childhood? We cannot from our experience believe it is. In these days there are so many fine ideas suggested concerning the education of children that they fairly bewilder us. We would all gladly make life a pleasure to them, but are we sufficiently aware that by willingly doing all the work, leaving them only the play, we are forgetting that though—

“All work makes Jack a dull boy,
Yet all play makes him a mere toy,”

as well. We want neither the one nor the other exclusively, but a practical and sensible blending of both. We perceive many who object to the old methods of education, who rush into the opposite extreme. They would have the child make no mental effort, commit nothing to memory as work, lest that organ be weakened ; in short do nothing to help to prepare the way and lay the foundations, as it were, for the duties and labours which must surely come.

All the faculties gain strength by using them, provided they are not over used. Against this of course we must guard.

So it is best that the children should learn to work a little, both mentally and physically, and not expect others to do everything for them. Besides, when the child is young and the mind is free from care, it not only learns more readily, but better retains what it learns. If it has acquired the alphabet, so to speak, of the languages, or of music, or anything in fact, it is always a great help to it in after years; for then these preliminaries would come, if they came at all, too much as a drudgery. We want to see our children free from all undue care, happy and full of glee, but we want also to see exercised over them some restraint and discipline where it is needed, or, better still, to see them governing themselves. Life is not all a Kindergarten. There are and will always be hard places to be met and overcome, lived down or through. If, therefore, life is made too indulgent for a child, and all its wants and wishes gratified, when life's lessons do come, they will only come the harder. This tendency to over-indulgence also tends to selfishness, and while we should not put obstacles in the way, we should still let the young see that they may come, and so try to discipline and prepare them for it that to the first shock they may not succumb. In our public schools, especially in the younger grades, teachers are expected to do a great part of the work. What will the consequence be? —that the present generation will grow up less strong, less vigorous and original in thought, less thoroughly educated and disciplined in many ways. Certainly this must be the case mentally, and there does not seem yet to be any gain physically. We have often heard the remark, "Our children are not so strong, as a general thing, as we are; and we are not as our parents were." It is true the young people of to-day are more accomplished, as the saying is, but are they better qualified to brave the battles of life? We are afraid not. And there are other strains on a child than study and a proper degree of mental application, for a great deal of the trouble arises from the dissipation and fastness of the age. And we cannot help thinking that if mothers would but spare themselves a little of the drudgery over the vanities in dress, and luxuries at home—which the children would be better without—and keep their minds intellectually bright and mindful to the growing wants of their sons and daughters as they step from the nursery and begin to appreciate their companionship, they would then feel that they had taught their children to set a true value on life, and have enabled them to catch a high and noble idea of their own duties, and of what would be expected from them in their turn.

ON THE CORRESPONDENCE AND RELATION OF THE ORGANS OF THE BODY WITH THOSE OF THE BRAIN.

THIRD ARTICLE.

Another centre organ, below Concentrativeness, is the so-called Philoprogenitiveness, which may be a desire not only to love and protect children, but in general all that are weak and oppressed; men often have this organ as largely developed as women; it is, therefore, likely to have a more widely extended field of action than the name would indicate; it, perhaps, inclines to set wrongs right, especially if associated with Benevolence. This and the two organs next to be mentioned are evidently of the nature of affections; the one we have just been considering seems to be connected with the bowels, perhaps, also with the heart; and if we refer to numerous passages of the Bible, which, though not philosophical, speak the language of nature, we shall find it constantly repeated in the same sense, either as yearning after one we love, or as feeling compassion for the suffering.*

On the sides of the organ above referred to, but a little above, the phrenologists place the organ of Adhesiveness, which appears to be somewhat of the same nature as the last, but having a wider scope; it demonstrates a strong feeling of attachment for those with whom we are in relation, as well as for places and things to which we are accustomed, or which are associated in any way with those we love. From this organ is, no doubt, derived the liking for keepsakes as memorials of those dear to us; this feeling when exaggerated and perverted by superstition would have led to the worship of relics and images, to pilgrimages to certain sacred places, and such like observances, for in all these the affections are engaged. Even animals are not devoid of this feeling: dogs are often celebrated for their strong attachment, and some have been known to follow their master to the grave, and refuse to be removed from it till death came to them also.

Below Philoprogenitiveness the phrenologists have placed Amativeness, or the affection which excites in the whole animal kingdom the desire for the procreation of its species: whether they have rightly placed it in the cerebellum instead of the cerebrum proper, like the remainder of the organs, is questionable; for the cerebellum is that part of the brain matter which seems to be essentially connected with muscular power, or animal force, and which necessarily obeys the

* Isaiah lxiii. 15; Jer. iv. 19; Jer. xxxi. 20; Song v. 4; Phil. i. 8; Phil. ii. 1; Col. iii. 12; 1 John iii. 17.

various dictates of the perceptive, intellectual, and emotional organs, probably through those in the back lobe which give direction to the muscles. In cases where the cerebellum is very deficient, great muscular weakness will be apparent, especially of the back and of the lower limbs: we ourselves know a child of four years of age who, though the rest of the brain is well developed, is very wanting in the cerebellum, and he cannot yet walk nor stand alone, and for a long time could not even sit upright without support.

Two or three other organs in the front base of the brain have not yet been noticed; they are Alimentiveness, Acquisitiveness, and Constructiveness; the two former, or all the three, suppose action, yet are placed in the front lobe, because they are receptive, they take in; whereas the back lobe, as already mentioned, acts outwardly upon external objects.

Acquisitiveness, or the desire to appropriate, may be exercised not only in acquiring material objects but, if associated with the intellectual faculties, in obtaining knowledge likewise. Constructiveness may be the power to combine objects or ideas for any definite end, it being situated near the perceptive and intellectual organs. All the active faculties, be it observed, as well as the perceptives, are placed near the base of the brain, and are, therefore, the most generally developed in all orders of animals, the mental and emotional faculties in man increasing as he rises in the scale of civilization.

In considering size of organs as a measure of superior relative power, we would also revert to the proportions which exist between the nerves of sensation and those of action, in each particular individual; for undoubtedly some persons are more sensitive in their natures, and others more active; this difference may possibly be in relation or accordance with the preponderance of the emotional, or of the active portion of the brain respectively.

In comparing man with animals, whose functions in many respects correspond, we would notice two great points of difference which give the former a great superiority over the latter: these are the possession of hands and of the powers of speech. By the aid of the first he is enabled by slow degrees, and in the lapse of ages, to attain to the great proficiency in the common and fine arts which he now displays, and which have enabled him, assisted by his intelligence, to make the wonderful discoveries which are almost daily brought to light. Imagine him for a moment without these natural instruments; could he possibly have risen to the point of elevation on which he now stands, supposing even that the necessary intelligence had existed?

The power of speech, again, enables its possessor to communicate with his fellows and to exchange ideas, by this means multiplying them ; and this is not all, he can by the arts of writing and printing, which the possession of hands has enabled him to attain to, perpetuate and pass on accumulated knowledge of thousands of years to his posterity, and so enable each future generation to have a higher stand-point from which to start.

If we go back to the early stage of man's history, we shall find him in a very low state of civilization, not much above that of the monkeys. Look even at our own ancestors, who had already made many steps in advance when Cæsar first became acquainted with them, and compare them with the present British race. What a great change has taken place ! Yet, they were men like we are now ; no organic alteration has taken place. This important result was produced merely by the exercise and cultivation of the faculties we possess, assisted by circumstances, above all by the teaching of a race who had already risen to a higher state of civilization.

As we have already hinted, we believe that the various faculties which have their seat in the brain correspond and receive their stimulus from the external organs of sense, and the internal organs of the body which, in their turn, are acted upon by other agencies external to themselves : such as air, light, food, &c., &c., in fact by our whole surroundings. It is only by close study and observation that we can discover the exact relations of one part with another, but that this relation exists we have little doubt. We have an idea that the stomach is more particularly connected with the Benevolence range ; the heart and lungs with the Veneration range ; the liver and, perhaps, the spleen with the Firmness range ; and as we have already mentioned, the bowels seem to be associated with Philoprogenitiveness and Adhesiveness ; Amativeness would also be connected with its natural organs. By means of the nerves communication is thus carried on between the brain and the body, and respectively among the several parts of each, as the circumstances may require. But this power of inter-communication is obtained by slow degrees, for if we observe a child, we find that each one of its senses is gradually educated, as it were, to know its work, and then in the same way it learns to connect it with other faculties. The first efforts of a child to make the hand obey the eye are very feeble and inaccurate ; it is only after a certain amount of practice that it is able even to touch the object which the eye sees, and it is still longer before it can properly grasp that object, and hold it in its hand. At a later age the same practice is required to

enable any one to perfect himself in any art, or in any active pursuit: even to catch a ball, or to play any other game in which the hand and eye have to act in combination, repeated efforts have to be made before a successful result can be obtained. Our troops realize this fact when they endeavour to hit a mark in the camp of Aldershot, or still more when in actual conflict with the enemy. This same process of reiterated effort must be carried on in every other relation; each faculty has to be trained to its part, it has to be educated singly, and in combination, which shows what an important subject is that of education; not that obtained by books alone, which principally appeals to our intellectual faculties, and has relation to matters out of the range of our own observation, but also of all the senses, and of all the active powers.

The sentiments also may be cultivated by presenting to them good and worthy objects and aims; and the affections may be regulated and directed by leading their possessor to act beneficially on other creatures of his kind, and on the whole of animated nature.

This idea of the intimate connection between the brain and the body in the sense which has now been presented may at first sight appear very fanciful, but there is really no reason *à priori* why, in the same manner that the light proceeding from any object acts upon the eye, so as to cause an image of it to be impressed upon the brain, the other organs which are contained within our body, and which also communicate with the brain, should not in a similar way produce an impression of a peculiar kind, according with the special constitution and mode of working of each one. We cannot feel the action of these internal organs, neither can we do so in the case of the eye, the ear, or any other sense; we only perceive the consequences of the act: whenever we do feel in any part of our body, it is because there is some obstruction which causes the sensation we call pain.

The immense variety of works carried on in the whole animal economy is indeed wonderful. Our interior is a perfect chemical laboratory, carrying on different processes in different parts, yet all tending to one object and end. These internal operations, influenced, as they must be, by the different external changes of temperature, climate, winds, altitude, soil, food, water, and other surroundings, must produce infinite modifications in the animal economy: all these, and the predominance of one set of functions over another, bring about different constitutions, temperaments, idiosyncracies, and forms. If this be denied, we would inquire: What then is it which constitutes the marked differences between man and man? The brain

alone cannot bring about these results; for if there were brain without eyes we should not see; without ears we should not hear, and so of the rest. In like manner, our emotions and tendencies to action would not spring from the brain if there were no excitors from the body to act upon and stimulate it: the very brain itself, if we were deprived of food, would be reduced to a state of inanity; for it, like all other organs, is sustained and kept in activity by the elements derived from the body. The very different proportions of the body in height, width, depth, length, or shortness of limb, must all have some direct and special causes; even if perpetuated by descent, it is likely that the original causes have also continued to act: wherever any change takes place in these proportions, it will be seen that some alteration of circumstances has also taken place to modify the conditions. We have heard, that in the case of poor Spitalfields weavers who have gone out to Australia, their descendants, instead of being the stunted weakly beings which their fathers were, have become, by the effect of plentiful and wholesome food, pure air, and exercise, a fine, stalwart race of men; and that the burly Englishman, on the other hand, who has gone to the United States, has become lank and lean in body, but with his nervous energy increased: these changes must, therefore, have been produced by differences in the external surroundings.

We must now conclude this brief sketch of a subject which has not yet obtained much consideration; for ever since the phrenological system was set aside, nothing further has been propounded in that direction. Even so in many minds the ideas have still lingered, and its language is often unwittingly employed; for men cannot avoid observing the difference in the form of heads, as well as that of features and countenance. In fact, both physiognomy, which was propounded by Lavater, and phrenology deserve to be more closely and fully studied instead of being set aside; for though they cannot yet be elevated to the rank of sciences, they may come to be so in time, for the growth of all sciences has been slow; many errors have had to be corrected as new facts were discovered, and this we hope may be the case with the present theory, should it be fortunate enough to find adherents. It is the strong conviction which the writer of this paper has, that in the main, the principle propounded in it is true however accompanied it may be by errors and deficiencies, and the hope that some persons of superior powers and more adequate means at their disposal may be inclined to take it up that has led to the publication of this article in so crude and imperfect a state.

E. I.

REMARKS ON DR. GALL'S THEORY CONCERNING THE ORGANS OF THE BRAIN.

BY DR. C. W. HUFELAND.

VII. Dr. Gall divides the whole congeries of nerves into the diverging and converging, and asserts, that wherever the one is found, the other also is. Each nerve, and also the brain, unites both.

Ingenious as this idea is, and though it harmonises with the fundamental functions of the nervous system, yet it has not been experimentally demonstrated. I certainly perceive that the one portion form Ganglia, and the other Commissures; that the one is somewhat stouter than the other: but I do not and cannot see that the one diverges* and the other converges.

The characteristic sign that the diverging mass is accompanied by arteries, the diverging mass by veins, is, for this reason, untenable, because in every part of the human body veins are found wherever arteries are.

VIII. Where then is the central point of the congeries of diverging and converging nerves? There must be such a point, for otherwise the idea of diverging and converging would have no meaning, and the whole nervous system would have no unity. But, according to Gall, I see everywhere nothing but diverging and converging substance. Even the *medulla oblongata*, which, according to him is the point of union, or kernel of the whole system, consists of single fascicles of nerves which have individually their particular function.

IX. I must add a remark as to the seeing with one eye. This assertion may be very easily refuted by the following simple experiment. Let any one hold a broad sheet of paper perpendicularly before him, with the back against his forehead and nose, dividing as it were the face, and of course the circle of vision. By this means the rays of light on the one side cannot enter into the eye on the other side, through the opaque body which divides the face; and if we actually see with one eye only, we should in this case behold only one half of the circle of vision: but we do in fact see the whole, and thus the assertion of Gall is refuted. We must, therefore, thus modify the position, that every man sees in general better with one eye than with two, either because his eyes by

* Yet our critic declares at the beginning, his conviction of the truth of Gall's notions concerning the diverging nerves.—EDITOR.

nature have unequal strength, or because he has accustomed himself to use the one more than the other.

X. I cannot approve of what has been said concerning conscience, for this is not an object of experiment, and does not, therefore, come within the sphere of Dr. Gall's doctrine. It has no organ, and our concern is with organs only; nor can I applaud the kind of explanation here given. Conscience is said to arise from the relation of our actions to our inclinations, but it may be further asked, Why does the agreement of our actions and inclinations delight us, and their disagreement give us pain? This shows us that our internal self-satisfaction or dissatisfaction has its origin in a higher principle of our mind, that is, the principle or sense of truth, of which our sense of right and wrong, good and bad, beauteous and deformed (in a higher sense of these terms), are so many different modifications, and of which we have the clearest marks, even in the child. This alone is conscience, and it is the opposition of true and false, right and wrong, good and bad, which constitutes its sphere; and not the dissatisfaction which a man feels when his inclinations are not gratified; for otherwise the regret which an epicure feels when he sees a spoiled dish, would be an affair of conscience: yet this follows from Gall's explanation.* On the contrary, according to the derivation given above, conscience is the august pledge of a more noble and divine descent; it distinguishes us essentially from the brute creation, and connects us with a loftier world of spirits, between which and the animal world man stands, and of which we have but an imperfect pre-sentiment, resembling, perhaps, what the brute creation have of us. I should be disposed to assert that conscience is moral instinct, and as the animal seems sometimes to approach to human nature, but merely instinctively, which man alone understands, and which ceases to be instinct in him; in like manner it seems as if man has an instinct of the world of spirits, which he is in some other mode of existence to learn to understand.

The result of my examination I would thus express. I adopt Gall's doctrine in as much as it assigns the energy of the mind to the brain as its organ, and in this organ assigns to particular and distinct energies a particular and appropriate organization of the brain. But I deny that these individual organs are always intimated by elevations of the surface of the skull. Still more confidently do I deny that the eleva-

* Dr. Hufeland must have misunderstood his author, or Dr. Gall must have expressed himself worse than the editor is acquainted with, if this comment were necessary.

tions upon the skull arise solely from this cause, and that, therefore, a sure inference may be drawn from them to the dispositions and tendencies of the mind. The doctrine, therefore, is true in theory, but there are no means of applying it in particular cases. In other words, the *organology* is on the whole true, but the *organoscopy* cannot be relied upon.

ON THE EFFECT AND APPLICATION OF GALL'S DOCTRINE.

Useful and pernicious Consequences.

I come now to a point which does not, indeed, concern the science itself, but which interests a great number of persons still more; that is, what is the use of this doctrine? Are its consequences salutary or pernicious?

I am well aware how unjust it is to put such questions too soon to the discoverers of new doctrines, and to judge of them by the answer. Every truth is good and useful; every discovery, if it be really one, is an extension of the sphere of truth, and hence, also, of human perfection and felicity, which is the same thing. Its consequences must be good and salutary, however unable we may be to perceive it, and if it injure, it can be only from its abuse; and what is there in the world, even in the most excellent things, which may not in this become injurious?

For the present I will make but a few remarks, necessary to prevent such abuse, to correct unfair judgments that may be formed, and suggest hints concerning the future application of the doctrine.

We may consider this application as it is general, and as it is particular.

As to the general application of it, I must reply first to two objections, which, were they well founded, would certainly have the greatest weight, viz: That this doctrine teaches materialism; and, that it deprives the human mind of its freedom, and consequently of its morality.

The first point charges this doctrine with representing the spiritual principle in us as a somewhat corporeal, dependent on organization, and being one with it; thus giving aid to the fatally prevailing doctrine of materialism, according to which mind is but a mere attribute of body, and perishable with it.

This is obviously not the case. Gall carefully distinguishes the spirit, the soul, from the organization; the organs are the material conditions of its activity, not the active being itself; without the presence and influence of the spiritual being they are nothing. Still further, he excepts the higher powers of mind from the state of dependence on single organs, and

considers reason, consciousness, and volition, as hovering alike over all. He who finds materialism in this, may find it as well in the assertion, that the body has influence on the mind, and the mind on the body, and yet no one doubts of this. It is the same whether we say the soul moves the arm by means of the nerves, or the soul is affected by light through the optic nerves; or whether we say the soul requires the co-operation of certain organic functions for the calling forth of her higher energies; for nothing more is in fact asserted than that the soul needs in this sublunary existence the aid of a co-operating material conformation (viz., of organs) in order to act in this sphere, and at the same time be limited and determined in this its action. It is here assumed that the soul is an essence altogether distinct from matter, and yet in this life indissolubly bound to the world of matter, by a bond of union utterly inconceivable by us. The materialist and the immaterialist differ in this; the one considers matter as the sole cause, while the other considers it as the condition (*conditio sine quâ non*) of the active powers of the soul. The latter is Gall's mode of thinking, and he who finds materialism in it, does not understand what materialism or what Gall's doctrine is, or cannot and will not understand it, because he is already a materialist, and glad to draw any doctrine into union with his favorite system.

Though superfluous, I will add another, and that a decisive observation. Were the organs the sole cause of the activity of the mind, it remains to be explained what that power is which prevents their being all alike active, which gives them their direction, and allows at one time an inclination to prevail, and at another time restrains it. What is this determining power? It cannot be the organ itself, but something out of it or beyond it; hence, it must be the will, a something spiritual, independent of organization. Further, in what does the difference lie between sleep and wakefulness; between the activity of the mind when awake and when dreaming? It lies in this only, that in the one the organs of the brain act without spontaneity and free will, and in the other freely and spontaneously. And does not this show that the activity of the organs and that of volition are different things?

The second reproach which concerns the freedom, and of course the morality of actions, is equally ill founded, for the organs determine merely the disposition or tendency, not the actions themselves. These are left to be directed by our free will, and it depends upon us to exercise as we please these organs of the soul, as it does to use the external organs of the

body. The only difference is this, that he who has a very strong organ will have a stronger inclination to exercise the activity united with it, and more difficulty in abstaining from that exercise, than he will have, whose organ is feeble. Besides, this notion is in no respect new; we do but change words, and call new organs, what before were termed the good and bad dispositions and tempers of men. Every one has been long convinced that men are born with different inclinations, some of which manifest themselves very early in life, so that in children of the same parents, and educated together and alike, very different dispositions and inclinations may be observed. Hence, there have been long a class of vices and virtues of temperament, in reference more to organization than liberty; and what but such violent inclinations and desires opposing the better knowledge and will of individuals have the theologians had in view when they have treated of original sin, temptations of the devil, &c., &c.? Gall adds to this merely certain organs as the seat of such inclinations, &c., the will remains still free. And it is with these organs of the mind, as with those of the body, that by not being exercised not only is the act hindered, but even the organs themselves lose their fitness for action; and in like manner, by such exercise, they are developed and increased. Thus, by means of moral culture, the disposition and inclination may be modified and diminished. Hence the great importance of early education, while these organs are in growth. At this period, by violence or punishment, the development of organs may be hindered, and their influence, during life, diminished, as is known to be the case of the bodily organs when not exercised in early youth.

I proceed now to the special application of this doctrine, and this may be made as it respects physiognomy, ethics, education, the administration of justice, and the practice of medicine; and this application may also be considered as it respects a general or an individual judgment.

And here I must begin by observing, that though in my opinion the general application is not injurious, I yet consider each particular individual application to be, for the present, premature, hazardous, and even unjust and dangerous to the individual. I have shown above how much is wanting to complete certainty, in inferring the form of the brain and its organs, from the external shape of the skull; how many exceptions must be allowed for from external circumstances, diseases, wounds, the motion of the muscles, &c.; and that hence, however well established the general positions may be, we cannot still be confident in our particular application.

The rules of nature may, as Gall very justly observes, be in themselves fixed and invariable, and not even suffer an exception; still these rules may be variously modified and changed in their appearances in nature, as we see in plants and trees, of which every species has a distinct principle of formation and growth; and yet, through external circumstances, the various individuals of the same species may display the greatest varieties and diversities of growth and form. In respect to the shape of the skull, the deviation from the rules laid down by Gall may be but the hundredth case, but not knowing that hundredth case, our judgment of the ninety-nine cases must necessarily be uncertain. To this we must add the very important circumstance, that the organ betrays only the tendency, the disposition towards any quality or energy, not the quality itself. He for instance who has the organ of cupidity, may have a stronger inclination to steal, but still be no thief; his power of free action may so keep down the power of the organ, that not only the act to which it tends may be repressed, but even the organ itself be lamed and lose its power, as we see in the external organs of our body. How unjust, therefore, would it be, to cast suspicion on a person having such an organ, when he, perhaps, on the contrary, deserves our esteem in a higher degree, than he who has by nature no impulse to correct and subdue.

Besides, what renders the individual application still more uncertain, is the difficulty of discovering the organ by feeling. Gall himself confesses, that among his many scholars, there are very few indeed who possess that address, that delicacy of tact, which is requisite to render their observations worthy to be relied upon. To acquire this skill demands habit and attention, as it were, a peculiar education of the hand.

IN the Anthropological Department of the British Association Mr. J. Park-Harrison read a paper on the influence of town life on stature. He showed, by a comparison of the stature of townspeople with that of country folks, that the latter have a considerable superiority in height. The general average for artizans in towns is 66.6 in., whereas country labourers have an average of 67.53 While Mr. Harrison has no doubt that town life has on the poor the effect of lessening stature, he is not sure that there is not another cause which accounts for some part of the disparity in height. This is the well-known preference felt by the small dark race among our population for a town life.

LAWS OF HEREDITY.

BY NATHAN ALLEN (OF BOSTON U.S.A.).

The principle of hereditary influence is an old doctrine. It was proclaimed in the times of Moses. Numerous illustrations of it are found in the Sacred Scriptures. It was taught by the Greeks and Romans, as well as by many able writers since their day. But it was not till near the close of the eighteenth century that systematic attempts were made to improve in this way the stock of domestic animals.

By careful study and close observation it was found that experiments in this direction proved very successful. Great changes, both in Great Britain and in this country, have been made in improving the qualities and character of domestic animals. To such an extent have these experiments been carried that they have been reduced almost to a regular science. The same general principles that have been employed in the animal creation apply also to the human species.

Physiology, upon which these principles are based, is comparatively a modern science. Within a few years great progress has been made in the practical application of this science, and just in proportion as it is brought to bear upon the relations between the parent and the child, or one generation and another, do we find marked indications of hereditary influences.

But a great difficulty or barrier stands in the way of improvement on this subject—that is, the want of a *general principle or law* by means of which all the facts or knowledge of this kind can be classified and reduced to a system. In all departments of natural history or the sciences in their early stages, there is a period of experiment, of observation, and discovery, before the facts can be classified and arranged under general principles. It is this kind of work—the establishment of a general law—that the facts on heredity need more than anything else, and such is the object of this paper.

In all the works of nature its primary laws or general principles are perfect in their character, and are based upon subjects or objects without defect or blemish. This rule holds good in all the natural sciences. Thus, in tracing back hereditary influences to their primary source or origin, the presumption is that they stand upon some general law or perfect standard.

After many years of study, observation, and reflection, we venture to submit a general law or standard, upon which all hereditary influences are based, and from which they have

their start or origin. This law, of course, is based upon physiology. What, then, is this general principle or standard? *It consists in the perfectionism of structure and harmony of function*; or, in other words, that every organ in the human body should be perfect in its structure, and that each should perform its legitimate functions in harmony with all others. Though this perfect physical organization is nowhere to be found in nature, we can readily conceive of such a standard, and that there may be all manner or degrees of approximation toward it. The nearer this standard is reached in physical organization the better will be the mental and physical conditions, and the hereditary effects will partake of the same character—a sound and healthy organization will be transmitted. Thus will be secured such a thing as a normal perfect structure throughout the whole system, and where all the functions are performed in a natural, healthy manner. Now let one or more of the organs become changed in structure, and impaired in discharging its proper functions, the effect more or less in degree is transmitted to the offspring.

It will be seen at once how weaknesses and predispositions to disease may be transmitted. Suppose there is an enlargement of the heart or some valvular difficulty, or suppose the lungs be weak or some part of them diseased, the effects of such an organization are quite likely to be transmitted in this direction. The same law governing the body applies also to the brain. If certain portions of the brain are imperfectly or excessively developed, thereby causing weak or strong points in the character, similar developments and characteristics will be found in the child.

Let us illustrate this law by taking some of the most striking facts in heredity, such as the defective classes—the idiotic, the feeble-minded, the blind, the deaf and dumb, &c., &c. The law is based upon a normal healthy standard of the whole body—every organ normal in structure and performing its natural functions in a healthy manner. This presupposes that the brain is well developed, and performing its own legitimate work, and also that the senses of sight and hearing are sound and healthy.

Now would such an organization beget offspring idiotic, feeble-minded, deprived of sight and hearing? Assuredly not; it would be impossible. While we do not find such perfect organizations, but only approximations to them, the nearer this approach comes the less such defects are likely to occur. Suppose this physical standard, naturally sound and healthy, has become impaired—some parts abused and diseased—then these imperfections will be transmitted. This law of

hereditary influence applies to the brain and to the senses as well as to all other parts of the body.

It has long been admitted by the best writers on medicine that there is a large class of diseases called hereditary, from the fact that the germs or predisposition to these complaints are transmitted. There may be instances where the disease cannot be traced back to the parent or grandparent, but may have existed in some of the ancestors, passing over one or two generations. The diseases most likely to be transmitted are consumption, scrofula, rheumatism, neuralgia, disease of the heart, liver, &c.

Perhaps there is no organ in the body where the predisposing causes to disease are greater than in the brain. It is estimated that fully one-third of all the insanity may be traced directly, or indirectly, to hereditary influences. The brain, from its delicate structure and incessant activity, is more likely to be disturbed and its functions become more or less deranged than almost any other organ of the body. If the morbid, diseased action of one organ implies that there must be a normal healthy standard, why may not all these be combined, and make a general, universal standard? And why should this not constitute a general law of heredity, from which all minor points have their start and origin?

If we could always have the same data—the same organization upon which to base hereditary influences, the results would be determined more definitely. But in applying this law of heredity we encounter a serious difficulty at once; there must be two active agents, not possessing the same organization, which may be constituted widely different. It is in this union, or combination of similar and dissimilar qualities, that the results or effects of inheritance must be estimated. As a general thing, where there is great similarity in the agents there will be sameness in results; while on the other hand, the greater the differences the more widely marked the results.

Notwithstanding there may be obstacles in the way of understanding just how these hereditary influences always operate, and we cannot calculate definitely the results, this does not invalidate the fact of a general law. In some respects this law may be compared to the principles of gravitation, electricity, or chemical affinity where their application is affected by certain conditions or is dependent upon the material upon which they operate.

One of the most important elements in constituting a good organization is that there should be a balance or harmony in the organization. In this case we shall not find any marked

excesses or defects; and provided both parties possess such an organization, it is almost certain that the offspring will have sound and healthy constitutions. The same principle applies to the brain: if its parts are not well developed—some excessive and others deficient—the mental qualities of the child will not be evenly balanced.

In entering into matrimony it would be very desirable that the parties coming together should combine such organizations as to match each other; that wherein one was deficient the other should make it up. This would conduce greatly not only to the interests and happiness of the parties themselves, but it would insure most favourable hereditary influences. In order to secure such advantages there is great need of understanding this general law of heredity.

The various facts scattered here and there on this subject cannot be satisfactorily explained nor classified without some general principle to guide us.

The law here described as regulating hereditary influences is not confined to this one topic, but has a wide and very extended application. Upon this same standard is based the great law of propagation or population, which may be thus described: *It is based upon a perfect development of all the organs of the human body, so that there shall be a perfect harmony in the performance of their respective functions.*

In making application of the law, it presupposes that other conditions are favourable; such as the age, the union, and the adaptation of the married parties—provided no natural laws are violated or interfered with—there will uniformly be found with such an organization not only the greatest number of children, but they will be endowed with the greatest amount of physical vigour, strength, and health. It should also be added that with such an organization, the best development of all parts of the brain may be expected, giving balance and symmetry to all mental qualities, whether social, intellectual, or moral. In fact, it is the highest and most perfect development or standard which nature sets before us.

This organization consists briefly in the perfectionism of structure and function; or, in other words, is the normal standard of anatomy and physiology, in their highest and best estate. Upon this basis is founded not only the law of human increase, but also the general law of health and longevity. All weaknesses and diseases originate in deviation from this standard or in violation of some of its laws. Thus in all the changes taking place in the human body there are general principles to guide us, and a universal standard of appeal. By this means clearer views and more definite knowledge can

be obtained of all the weaknesses and diseases to which the human body is subject.

There is a great advantage in having a standard of organization constantly before the mind, as it enables us to detect more readily in every case what diseases are constitutional or hereditary. We can thus judge far better of the relations which one disease sustains to another. This knowledge will also enable us not only to treat this class of diseases more successfully, but to understand how they may be prevented.

This same organization affords the groundwork or the constituent elements of long life as well as good health, and, therefore, may be designated as the Law of Longevity. In some respects the human body may be compared to a perfect machine made up of many complicated parts. Each organ has a specific work to do, and in its normal state can do so much and no more. In this state, "the wear and tear," or the demands which nature makes to support life and carry on its operations, come upon all these organs alike, without infringing upon that of any other.

Now a careful investigation will show that it is the constitution or organization here described that survives the longest or reaches the greatest age. It is this type of the physical system or combination of forces that insures longevity. And the most powerful of these forces is that of heredity. All writers agree that one of the indispensable requisitions for long life is good healthy stock, or long-lived ancestry. If there is any condition, property, or principle that composes and regulates these inherent qualities and tendencies, there must be some general law overruling the whole.

There is another test in favour of this normal type of physiology, that is, it is the true standard of beauty. In the creation of man there must have been a standard, a form, a size, a fullness, a proportion, an outline, &c., that was more beautiful than all others. Man was created with a sense of taste; with a love for the beautiful, which, cultivated and perfected to its highest state, might find objects in nature capable of gratifying it to the greatest possible extent.

The physical standard here described represents the organization of man as perfect—the same model and type that it was when he came from the hands of the Creator.

It is this same standard or model that Grecian and Roman artists have attempted to imitate in statuary. Art may create such models, but what a failure on the part of nature! What countless deviations from this standard do we find everywhere among all people! What has been the most powerful agency in producing these changes? It is the *law of inheritance*—first

and foremost, above all other agencies. Why should not such a power be better understood? Why should it not be more under the control of the human will?

Within a few years the interest in this subject has greatly increased, as indicated by the publication of several new works, as well as by discussions in the journals and newspapers. Some advocates of the doctrine are so enthusiastic that they claim, if the principles of heredity could be generally applied, it would revolutionize the present state of society; that it would go far to eradicate evil and crime as well as pauperism and insanity. In their zeal for this new doctrine they overestimate altogether its advantages, and do not consider the difficulties in the way, or how slow must be the process of improvement. It is the work of successive generations.

On account of the advocates of the doctrine making such high pretensions of what it can do, some persons have become very much prejudiced against it, and ridicule its followers. It is not the first or the only time that new doctrines have been opposed and ridiculed. This arises in a great measure from ignorance and prejudice. The facts on this subject are so common and abundant that they must convince every candid and reflecting person that there is much truth in them,

The principal reason why the laws of inheritance have not hitherto been better or generally understood is because the principles of physiology have not been applied any more to practical life. In fact, this science is practically in its infancy. It is only a few years since the relations between pure air and the healthy state of the lungs and the blood became known, or the importance of regular exercise of all parts of the body, in order to maintain good health.

The relations which the physical system, with its various organs, sustains to education and religious culture are, as yet, very imperfectly understood. So is the application of sanitary laws to public health; also to the prevention of disease and the preservation of human life. The farther inquiries are pushed into the relation which this science sustains to the public welfare the more useful and important do they appear. It may be found that this law of inheritance will become one of the most powerful agencies that can be employed for advancing the best interests of a people. Such an agency certainly should not be despised or ignored.

The inquiry may still be made, if the doctrines advocated in this paper are so important, why have they not before become generally known and their truth admitted? The same question might have been raised in reference to many other discoveries. It seems to have been the design of Providence

that the great truths of nature should slowly be brought to light at different periods, and by a variety of agencies.

Such has been the history of nearly all the sciences. A great amount of knowledge may exist on some subjects without being reduced to system or applied under any general principles.

It is so in regard to heredity. A very large body of facts have been gathered by a great number of individuals, each operating in different fields. Now let all these facts be carefully analysed and classified, to see if some general principles cannot be deduced from them—some principles which will enable us to understand better their origin, their connection, and application. In the very nature of things there must be some general law to explain and regulate these phenomena.

HYGIENE AS A PART OF OUR WORK.

Temperance is a part of the religion of the body, and it may well be called a centre around which other reforms radiate. The momentous question, "Who did sin, this man or his parents that he was born blind?" implies a recognition of cause and effect; and it would be well if we as women, and especially as mothers, recognised this, and our responsibility as co-workers with God in moulding the future race. "A sound mind in a healthy body" is a recognised axiom in theory, but how few of us feel that God has wedded the two together, and intends *us* to see that they are not put asunder! A healthy body is the birthright of every child; and a happy, playful childhood is the best inheritance we can give our children. The joyful exercise of every muscle is needful for its growth; to restrain this is cruelty. Happy is that child who has the freedom of country life, who can climb trees, run races, and shout to the echoing hills, or imitate the cuckoo, and gamble like the squirrel. But where circumstances compel a city life, let us make it a duty to see that our children are developed physically by seeing that they have a plentiful use of water and fresh air, and every muscle being brought into healthy use, and made strong by well-directed calisthenic exercises. I wish that in every town we had young ladies such as our bright sunbeam of London, Miss Jessie Fowler (daughter of our late lamented Mrs. Fowler), who in the midst of a life of great activity and usefulness, finds time to conduct classes for lighter gymnastics, and it is a real treat to go into her rooms at Ludgate Circus on a Saturday afternoon, and

see her bright girls in their charming costumes go through their graceful exercises, and become expert in elasticity and freedom of movement. Dr. Richardson has wisely pointed out the need for more physiological knowledge among our girls, and the importance of mothers not considering their duty complete until they have done everything in their power to establish in their children strong healthy constitutions. It is of far more importance that our children have strong limbs than the consideration of how many frills they have on their dresses. It is better to bless humanity by a pure and healthy physique than to have hoards of wealth at our bankers that they may never live to use. MARGARET E. PARKER.

FIFINE AND HER FRIENDS;
AN ATTIC CRUSOE.
By CAVE NORTH.

CHAPTER XXVI.
NON AMO TE SABIDE.

In consequence of his father's illness, Fritz was precluded from paying his promised visit to Fifine, for Wendel never left the apartment for many minutes together, and when she did it was with strict injunctions to Fritz to watch at his bedside all the time, and call out to the Frau Professorin or Zerafine if anything was wanted. It was a great disappointment to the boy, but he submitted to it patiently; satisfied, for one thing, to know that his beloved friend and teacher was near at hand, and for another, that he could, with Beauty's help, stealthily aid her. He was so afraid of her safety being compromised in any way, that he took every precaution to prevent Beauty from being seen in his journeys up and down the stairs, always keeping the outer door shut, and managing, whenever possible, to make a noise of some kind when the door was about to be opened, as a signal to the dog. Fifine's words, that it was a matter of life and death to her, rang continually in his ears; and the spiders that spun their web over the mouth of the cave in which Mahomed took refuge, could not have been more jealous of the prophet's safety than he was of Undine's.

This was the ninth day of her imprisonment. She rose in the morning with fresh strength and renewed hope. As it had rained in the night, her earthenware rain-tubs were full, and she could therefore indulge in a copious, if not a sufficient wash. Her brief toilet done, and breakfast cleared away (and Fritz's bounties were not yet exhausted), our heroine considered what she could best turn her hand or her mind to as a means of profitably passing away the time. For some minutes she was quite at a loss to know what to do. Sitting

with folded hands, much as a child does that has effected all the mischief it can, although with not a particle of its complacency, she could not help recalling and repeating to herself the Wattsian proverb so often dinned into her ears at school ; and so unquestionably idle were her hands that she wondered what mischief His Majesty would discover for her.

"I begin to think," she said to herself, seeing that no suggestion of mischief came into her head, "that there is no more truth in that proverb than there is in many another saying that comes to be considered wise by reason of its oft-repetition. It is not, anyway, the idle hands that do the mischief, but the busy ones. Suppose I put the adage as it should be : 'Satan finds some mischief still for busy hands to do !'"

No sooner was the redaction made than Fifine took her charcoal and wrote it upon the wall. Pleased with her perspicacity, and delighted to think that she had bowled over one of the bugbears of her girlhood, she began to consider whether there were not, perhaps, other specimens of the wisdom of many combined with the wit of one equally requiring an editor. One after another occurred to her, and she went on writing them down, original and amendment, till she had got a collection that would have done honour to Sancho Panza. She even thought : "Well, if my durance here were to last much longer, I might re-write all the proverbs. I wonder prisoners never thought of that as a means of occupying their time instead of making pets of spiders and mice."

In the course of an hour many a time and lip-honoured saw had gone under the file of her criticism, and had come out sharper, if not shrewder. For the weakness for demolishing old-established notions, be it only the exploding of a popular proverb, or the pulling to pieces of an historic myth, is a thing that grows on one, and may indeed end in becoming a mania ; just as some have a mania for rehabilitating threadbare reputations, and others a mania for repairing demoralised habiliments.

Fortunately for Undine her starting proverb recurred to her mind, and she asked herself the question : "Is not this the mischief he has found for my idle hands and brain to do ? I must think that over !" She sat down and thought it over, but could not quite make up her mind about it. Some of her proverbial emendations seemed to her decided improvements ; "but then," she queried, "do they not appear so because I have put a certain stamp of authorship upon them ? There's something in that. I think I will leave the remainder of the proverbs alone—at least for the present !"

She was strengthened in this resolution by hearing Beauty's well-known touch upon the door. He came to say, "How do you do ?" He would have told her, if he could, that her adoptive father was much better in health than he had been, and that he had to-day, for the first time since her flight, received a pupil ; in consequence of which neglect of duty there were symptoms of distress in the house, one of which was that Zerafine had gone out shortly after breakfast

with a triplet of silver goblets, being the fourth part of a set of ancient date, known as the "Twelve Apostles," that had descended to Claus as a family heirloom. Beauty well knew their destiny when he saw them reached down from the oaken cupboard, brushed up with plate powder, and then carefully stowed in Zerafine's basket with old serviettes about them to prevent them telling tales ; they had gone the same way before ; indeed, if interrogated, they might have told as strange a story of ups and downs of fortune, family vicissitudes, joys and sorrows, hopes and regrets, as many a royal jewel.

When Zerafine returned, and the contents of her basket were exposed to view, Beauty saw good belly-timber, and in his doggish way thought the exchange was not a bad one, although he would have liked to see Frau Bromm and Zerafine look gladder over the prospect of a dinner, and not talk together in such a low and melancholy tone. It was enough to give a poor dog the blues.

All this was in his mind when he came into Fifine's presence, and more, too ; for he had made up his mind that, despite his mistress's charming face and seductive ways, he must not allow himself to overstay the dinner-hour. So anxious was he on this point, that he kept running to the door to sniff the air ; thereby causing Fifine some alarm, for she thought his uneasiness, as on Tuesday night, portended danger.

Her fears passed away, however, when shortly after noon, her friend and protector took hold of her skirt, and drew her to the door, and showed by unmistakeable signs that he wanted to be let out.

Left to herself, she wondered why Fritz did not come up, but supposed it was because Wendel had not gone out. Undine was now anxious beyond anything to see him, in order to find out exactly how matters stood ; if the flautist was still in the house, how he stood with Claus Bromm, and what generally was thought of her flight. She regretted her folly in letting the opportunity for enlightening herself on those points slip by through over-anxiety as to her bodily comfort. Still she consoled herself—as most people used to disappointments will do—with the reflection that perhaps things happened as they did for the best : a reflection which seemed justified by what occurred later.

To one thing she had made up her mind ; she would wait patiently until Fritz came to see her, then, according as affairs in the Bromm dwelling seemed favourable or unfavourable, she would either make known her presence to them, or watch her chance to leave the house unobserved, and find out some quiet lodging (perhaps with Fritz's help), where she could securely watch events, and decide upon her future course of action.

Her voluntary imprisonment and isolation had had this good effect—it had taught her to think. Hitherto, impulse had been her guiding principle in life, and though the motives which underlaid it were good and high, it had nevertheless led her into infinite trouble and difficulty.

It is one of the great faults of our educational systems that they

encourage impulse rather than stimulate thought, and Fifine had been one of its most unfortunate, because one of its most generous, victims. If she had been more selfish and calculating, she would not now have been stranded where she was ; nor would she have been the cause of so much sorrow ; for the best motives, misdirected, may lead to as much present misfortune as the worst.

Fifine was not unhopeful that when they knew how matters actually stood, even though her husband had told a different tale, and won them to his side (as he was quite capable of doing by his oily tongue and ready tears), that they would be willing to help her quietly to escape him, and so avoid a scandal which would be certain to ensue should he try to force her to live with him. And if they should prove agreeable to such a course, Fifine thought she saw an easy way in which it could be done : that was, for her to remain privily where she was, with the knowledge only of her parents and one or two others in the house whose discretion was to be trusted, until such time as the man whom Providence, or her own folly, had made her tormentor, should take himself off. For, like the prisoner of Chillon, and many another besides, she had become enamoured of her prison, and felt loth to leave it. To her mind it needed but little to make it a palace : a few more necessaries, two or three more books, her painting utensils, and one now and again to talk to ; so little does the soul really want when it comes to a question of actual necessities, and so happy and content can it be under circumstances which, untried, would appear almost worse than death.

As these, or similar thoughts, passed through her mind, Fifine was in half a mood to add a moral to her collection, as thus : "The dose is never so nasty as it looks ;" or, "What we fear is the something added by our imagination, not the reality !"

But presently turning for pastime to her pigskin companion, she saw her very thought, and was straightway quite out of conceit with herself. It was this : "A man which feareth to be banished out of his country, can neither be merry, eat, drink, nor sleep, for fear, yet when he is banished indeed, he sleepeth and eateth as well as any other. And many men doubting and fearing whether they should die or no, even for very fear of death, preventeth themself with a more bitter death than the other death should have been indeed. And thus fear is ever worse than the thing feared !"

As evening came on, Fifine listened with more and more eagerness for the sound of Fritz's footstep, or rather for his crutch, on the stairs ; and as hour after hour went by without his coming, she began to be down-hearted, and to complain. As this was a state of mind she had determined to do battle against at all costs, she set to work to clear out her stove, and to make a fire, which was necessary not only to make her evening cup of coffee, but to warm the room, which became chill towards night. In doing so she found that her fuel was getting very scant, which was another cause of anxiety. The supply of other stores was equally meagre : her coffee and sugar, with miserly handling, might last over to-morrow, but her eatables would not outlast

her evening meal, nor even make a full one. She should have to venture to send Beauty once more to the baker's, and hoped he wou'd come up soon.

Beauty, however, appeared to have got it into his head that his mistress had run out of money ; and in the conviction that food must be procured for her by hook or by crook, he had at first watched his chance to purloin some from Zerafine's larder ; but food raised at the cost of pawned Apostles was too precious to be left about indiscriminately, and Beauty, though he could lift a latch, could not yet turn a key. Disappointed in this quarter, he went over to the baker's, and eyed the rolls and other confections in the window with lickerish eyes. Whether it was his intention to go in, and see if he could beg, steal, or get a roll on trust, we have no means of knowing, for while he was still deliberating, the flautist passed him, going towards the Holy City, which—as we are aware—was next door but one to Sussmilch's.

Both caught sight of each other at the same moment ; and while Beauty was considering whether he should bark at, bite, or leave his foe proudly alone, Goldwhistle made a lunge at him with his foot. Fortunately, his aim was bad, so that he only succeeded in rolling him over ; that, however, was sufficient to give him a start, and enable him to reach the entrance to his lodging-house before the dog could get at his heels. At the door he turned, and offered battle ; but Beauty was too wary an animal to accept the challenge on such disadvantageous terms, he therefore contented himself with a low growl, which said as plainly as a dog could : "Wait till I get you in the open, that's all !"

Claus Bromm witnessed the skirmish from his window, and was ready at once to supply Beauty with an appropriate quotation from Martial, if Beauty had only been in a position to appreciate it. It was :

" Non amo te Sabide, nec possum dicere quare ;
Hoc tantum possum dicere, non amo te ; "

which exactly expressed his feeling towards the flautist.

The dog followed the example of some superstitious people who believe that having been crossed in an effort towards a certain end, it is not lucky to repeat the effort on the same day. He did not return to the baker's, but trotted off in the opposite direction, as if with some vague purpose in his mind. Presently, however, he presented himself at Grossbein's door, at which he scratched for admittance, and being let in, went and put his paws on Fritz's knee, at the same time turning his head significantly towards the landing. Fritz understood him, but gave him to understand, as best he could, that at present he was quite helpless. After awhile he went to the door to let him out, and when outside he quietly slipped a coin into his mouth and whispered the words : " Roll for Fifine," and Beauty was off.

So presently the willing prisoner had her pantry replenished. Beauty did not stay with her long ; he seemed to have something on his mind, and wanted to get away ; perhaps it was " Sabide."

The evening was now getting on, and the candle supply being short, Fifine put out her light, and lay down to rest.

CHAPTER XXVII.

CLAUS BROMM'S HALLUCINATIONS.

Fifine's position became more and more critical. She began to dread to send Beauty out for her daily roll even at night, lest some other spying eye, no less sharp than Fritz's, should find him out. Chiefly, of course, she dreaded another visit from her husband, who she felt sure would not be beaten off by a ghost, especially if he found that it was a ghost the dog did not fear. Apart from her dread of sending Beauty out, however, another cause of anxiety presented itself; namely, the fact that her small change was exhausted, and that she had nothing left less than a Reich's-thaler, which it would be unsafe to send the dog with. Here, she thought, was another respect in which she had shown a lack of foresight when Fritz was up, for if she had thought of it, he might have been able to get her change. Curiously enough this thought of the boy suggested a means of overcoming her chief present difficulties. For why, she asked herself, should she not send the thaler to Fritz by Beauty, and ask him to lay it out for her? She no sooner thought of the expedient than she resolved to adopt it. Of course there was some risk in it; for if Wendel saw him take anything to Fritz the secret would be out. However, she must trust to the dog's cunning and sagacity, which had served her so well hitherto.

Taking a piece of paper (for which she had to do sacrilege to Old Knutz's Library), she made a list of the things she wanted, and begged the boy to do his best to procure them for her. She then wrapped the coin in the paper and gave it to Beauty, repeating several times the name "Fritz."

It was the tenth day in the afternoon that this new departure was taken, and Fifine waited long and anxiously for the result. At length it came, but not till after ten o'clock. While she was waiting, with her ears as it were on the stretch to catch the slightest sound, she thought she heard the soft wailing tone of a flute. She listened still more intently, and was presently sure that her sense of hearing did not deceive her. It was unmistakably the low wailing of a flute, but who was the player? Her heart answered, "Goldwhistle."

When she heard the well-known signal, she hoped it might be Fritz himself with an answer to her message, but it was not. Beauty came alone; he carried a bag in his mouth which, when opened, proved to contain everything she had asked for.

It was evident from the way they were parcelled up that the articles had been bought on purpose, and Fifine wondered if Fritz had ventured out for them himself, or, if not, how he had managed to get them. Fritz had managed very cleverly. He and Hans—the Wirth's head waiter—had long since struck up a friendship, and he

had only to suggest a want and Hans was ready to go to the end of the city to gratify it. When, therefore, the boy had been made acquainted with Fifine's desires—and Beauty carried out her instructions with his usual astuteness—he had only to give the signal agreed on between him and Hans (which was to drop a reel attached to a piece of string through his bedroom window, until it was on a line with the Wirthschaft window), and the latter was presently mounting the stairs to know what he wanted. Fritz gave him the Reichs-thaler and a list of the articles he wanted, bidding him keep the matter to himself, as he did not want his mother to know.

"So you are going to have a little stock all to yourself, Fritz, eh?" said Hans.

Fritz laughed, as much as to say: "Believe that for the present, good Hänschen."

Having got his things together, he put them in a bag, and waited for an opportunity to put them in a corner of the garret stairs, ready for the dog. Beauty had taught him this trick; for when he brought the money, instead of coming straight to him with it, he paid as it were a friendly visit, and gave no hint of having further to do, until Fritz accompanied him to the door, when he drew him to the garret stairs, and showed him the little packet containing the coin.

Communication having thus been established between them, Fifine was no longer in trouble on the score of supplies, Fritz always proving equal to the emergency, whatever her demand might be. Thus, one danger was obviated, and the dog was kept in good humour by being required to act as carrier and general factotum.

A week passed thus without anything of special note happening as regards the recluse. Meanwhile, in the lower regions of the house, matters were looking gloomy enough. Grossbein's illness, as we know, had turned out to be rheumatic fever, and for some days it looked as though the end might be very serious. Dr. Bleichroder called every day, and did not feel at all sanguine as to the result until the ninth or tenth day, when a change occurred for the better.

There is a saying that lovers and drunkards have each a god to themselves, who manages to pull them through difficulties to which others would inevitably succumb. In Grossbein's case there certainly seemed warrant for such a belief.

More serious even than in the Grossbein domicile were matters in the Claus Bromm household. The worthy Professor, after two or three days of a calmer state of mind, relapsed into a mood bordering on insanity. Bleichroder was deeply concerned for him, and began to think it would be necessary to put him under restraint. One of poor Claus's hallucinations was that he had had a baby daughter, and that the storks had flown away with her. He imagined that they had gone to Egypt, where they had given the infant to a humble fellah living on the banks of the Nile. Sometimes, however, it was Persipolis whither they had flown, and a Bedouin family that had adopted her. The old man would talk by the hour of going to find her, now on the Nile and now in the Desert, imagining all kind of fantastic adven-

tures gone through in the search, but generally ending with the consideration that he must first earn the money to cover the expense of the journey. Finally, he got it into his head that she was to be brought back by the birds themselves, and he would go out two or three times a day to see if there were signs of their return.

Another of his hallucinations was that Undine was dead, and that her ghost appeared to him. This Bleichroder considered the worst symptom of all, because night being the time when the "ghost" appeared to him, he was prevented from sleeping, so that his trouble was augmented for want of sufficient rest. Thinking a change of scene might do him good, the Doctor took him for a day or two to his sister's house at Schoenberg, but it only seemed to aggravate instead of ameliorate his malady, and so he was taken back to the Prediger House.

During the two days he was at Schoenberg, Herr Herzel, took a strong liking to him, and spent a great deal of time in his company. He was against his being taken away so soon, thinking in the long run the change would be beneficial to him. However, the Doctor thought differently, and did not besides want to impose too much on his brother-in-law's good nature.

Still another of the Professor's fantasies was that he was a strolling player. By some means he had been metamorphosed into the flautist. The idea first took possession of him the day after Leitner went to Paris. Towards evening, he took his flute out of its case and played two or three very doleful tunes upon it, walking from room to room.

Zerafine had taken it down from the top of the bookcase, where it had lain for long enough untouched, thinking it might be useful as a means of producing music in the pot, in lieu of something else that could be less easily spared. To Zerafine—brought up as she had been on the hard ground of sordid materiality—there were only three sorts of things that were useful: namely, those that ministered to the comfort of the inner man; those that protected him from the inclemency of the weather; and those that otherwise tended to fend him and house him comfortably. As to music, she did not see any use in it, except it were in the form of a band to make soldiers march withal. In letting her eye wander about for the superfluities of the house, her gaze lighted upon the flute which, without saying anything, she quietly laid in the way for Bear to see. As ill luck would have it, however, Claus espied it first, and it would seem that the sight of it recalled to mind his initial adventure with the flautist, with the result we have seen.

"Lord!" exclaimed Zerafine, looking through the kitchen door, when she heard the Professor's doleful strains, "Lord, if I did not think it was Job back again!"

"Poor Rätze!" said Bear, "perhaps it will comfort him."

It comforted her not a little, doleful as it was, because it brought to mind the early days of their marriage when Claus used to warble on his flute a good deal. It is a strange thing, but as true

as it is strange, that you can never get anything half so sweet as the things you have been accustomed to in your happiest days.

"It won't comfort me," replied Zerafine ; "I'm sorry I got it down now."

"What did you get it down for?" asked Bear.

"Oh, I thought it might do for the Jew (*i.e.*, the pawnbroker)."

"You surely would not have put Claus's flute away?" said Bear.

"What's the use of it?—or the piano either, or all those books?" exclaimed Zerafine.

"What! you would do away with his books too, would you?" replied the Frau Professorin.

"Not with all of them, certainly," said Zerafine. "I know that a man cannot be a Professor without books; but what he wants so many for, that's what puzzles me. Why, there are hundreds of them, and they are all as nearly alike as may be!"

"They may look alike on the outside," said Bear, "but they are all different inside."

"I don't know what you call different," replied Zerafine ; "to me—and I have looked through nearly all of them—they are all as closely alike as two peas."

"But how can you tell?" queried the Professorin ; "you can't read."

"All the same, I suppose I can tell whether their insides are alike or not," replied Zerafine.

Bear could not help smiling. "You are comparing the mere appearance of the printing," she said, "whereas the difference is in thoughts."

"There now, ignorant as I am, you will never stuff me with that," said Zerafine. "I can believe a good deal, but I will never believe that there are thoughts enough in the world to fill all those books."

Presently, when Claus ceased his playing, Zerafine came out with a hearty "*Gott sei dank*," which she was sorry for when she saw it had pained Bear; still more sorry when half-an-hour later Bleichroder brought the Professor in (whom they had not heard leave the house) saying that he had found him in the street playing the flute, with a group of children about him.

Zerafine laughed : her first impulse was to laugh at everything sad ; her next was to pull her hair. On this occasion she ran out of the room into her own particular domain, the kitchen, and knocked her head against the wall ; then she went and stood by the window, and cried.

From that day the Professor had recourse to his flute for comfort night and day. Good care was taken, however, that he did not get out with it. He was not allowed to go abroad unaccompanied by either Bear or Bleichroder. Whenever he took his flute in hand, he immediately began to pace up and down the place as though he were a true gutter warbler ; and day after day as her ear caught the echo of the delectable sound, Fifine felt a cold shudder run through her frame.

The prisoner had now reached the twentieth day of her incarceration, and was beginning to wonder how much longer it would last, and what would be the end of it, although she did not fret under the restraint and long for liberty so much as she had done at first. For one thing she found her time pass less heavily, having the wherewithal to employ herself more agreeably. Amongst other things, she had got Fritz to send her up some paper, so that she was able more easily to write down her thoughts. She was also able to amuse herself by sketching, but this she did not do so much, because it took too much paper.

Her greatest amusement was to write down her thoughts ; and when she had none of these to put down, she tried to remember the things she had learned at school, and wrote them down as though she were doing a lesson. She found her memory very retentive in that direction, so that the difficulty became not so much what to write as what not to write. Thus her exercitations resolved themselves into a recording of good and wise thoughts. Very naturally, when she had finished writing down those she remembered from her school days, it occurred to her to put down some of those she had heard drop from the Professor's lips. When she had made a small collection of these, and read them over, she could not help comparing them with Toxophile's, which she thought they greatly resembled in regard to wit and quiet sententiousness. Then, by a natural process, she pictured Toxophile to herself as another Claus.

One thing that occupied her mind at this time was not a little comic. The little window of her garret, which, as we know, afforded a view of the Domplatz, and of a part of Langenstrasse and Predigerstrasse, was one she dare not trust herself too near to, for fear of being seen by some one in the houses opposite (for there was little chance of her being descried from the street); but she ventured sometimes to feast her eyes on the sights below—which could not be seen from the other windows—standing a little aside, or peeping through a narrow slit in her improvised blind. One afternoon, as she was thus spending an idle half-hour, she caught sight of a face at the upper window of the Holy City. It was a pale, and she fancied, a thoughtful face. It did not move all the time she was at the window. Next day she saw it there again, and the next day after that. Then she began to look for it each morning, and to wonder to whom it belonged. Could she have seen—could she for two minutes have had the use of an opera glass—her prison door would have been opened, and she would have walked out a free woman. As we know, it was Goldwhistle, but she was too far away to recognize him. From the Claus Bromm drawing-room she might have done so, perhaps in spite of his disguise—for since his discomfiture by the ghost, he had taken the trouble to apply some stage-fixings to his face, so as not to be “spotted” so easily from the street.

The onus of that discomfiture had fallen upon Raubvogel ; at least the flautist laid all the blame at his door. He did not tell him the truth about the affair—indeed he could not have told the truth

except by error or forgetfulness, so natural was it for him to lie—but he made up a tale about having found some one on the watch, and so been compelled to hide himself until morning. How the matter would have been improved by Raubvogel's presence he did not make quite clear. The Owl bore the blame very meekly, believing he had been the means somehow of depriving himself of the moiety of a big windfall, or at least of delaying it.

Not knowing that it was her gaoler who kept such constant watch at the window, thinking it was some one who, from sickness or other cause, was obliged to be a prisoner like herself, she felt a deep pity for him, and found herself mingling a petition for him with her prayers.

During this time several letters had been received in the house from Leitner. The Frau Professorin had received one asking for news, if there was any to give, of Fifine, and likewise of Claus. It was with almost a broken heart that the poor woman replied, that not only was there no hope of finding the young lady, but that there was fear of losing her husband. Annette (of course), and the Gastwirth also, received letters from the young man. He spoke of his pleasures in Paris, but said he counted the days long until he should get back to dear Kaiserstadt. He was uncertain, however, from day to day, how long he should be detained. In a letter to Dr. Bleichroder—written on purpose to communicate the fact—he narrated how, a day or two after his arrival in Paris, walking along the Rue Rivoli, he saw a lady pass him in a fiacre, so like Fifine Montressor that he immediately hailed a vehicle, and followed her; but he was unable to overtake her, and lost sight of the carriage amid the crowd of vehicles: “In respect to hair, eyes, expression, build, everything, she was so like Fifine,” he said, “that I could have sworn it was she.”

“And I don't doubt but it was she,” said the Doctor, talking the matter over with Bear. “I'm afraid we have all been lamentably deceived in her. Her parents, according to her own statement, are of the Bohemian type, casting off the duties of life if they interfere with its pleasures; and as the tree is, so is its fruit. Claus ought to have called her ‘La Cigale,’ instead of ‘the Undine.’”

“I don't believe a bit of it!” cried Zerafine. “She's no more a grasshopper than you or I. I should have thought a philosopher like you would have known a good woman when you saw one!”

“I certainly thought so myself,” replied Bleichroder; “and I would have gone bail for Fifine to the extent of half I possess; but how can you explain her disappearance? The most charitable explanation is that the Bohemian blood in her veins got the better of her.”

“I'll never believe that it was any badness in her that took her away,” replied Zerafine.

CHAPTER XXVIII.

THE ARTIST'S DREAM.

Things began to look very black in the Bromm household. Added to sickness came want, or something nearly akin thereto. The Pro-

fessor's small stipend—paid quarterly—was invariably owing to the last kreutzer before it was due, for rent, taxes, etc., so that little of it could be counted on for current household expenses ; when, therefore his daily teaching was intermittent, the wherewithal to keep the pot boiling was stopped. Bear could have borrowed of Bleichroder, or even of the Gastwirth ; but with the pride of her class (with which it is one of the most sacred of duties to keep up appearances) she preferred to feel the pinch of want rather than expose their poverty. Although the Doctor had a suspicion that the demon of impecuniosity might have taken up his abode in the household, and more than once hinted to the Professorin that in case of being straightened for a little money, his purse was at her disposal, yet he refrained from hurting her sensibility by inquiring too closely into the financial position of the household, or offering her money right out.

Bear now began to ask herself what would happen when they had got to the end of their means of raising money. Neither she nor Claus had any relations to turn to for help, and even their friends like Bleichroder, Nussbaum, and others—though they might be willing to assist them to tide over a time of difficulty, they could not expect, nor indeed would allow them, to keep them for any length of time. Yet, if Claus was to be permanently incapacitated ? It was a black enough outlook in all conscience ! But Bear was a brave little woman, and although her eye became somewhat less bright, and her cheek paler, she kept a stout heart within her. Zerafine, too, was as good as a host.

"What if the worst come to the worst ?" she said, "you and I can work, and if we two can't keep a roof over us in a Christian town where there is plenty of work to do, it's a pity. Besides (and this was always her consolatory wind-up)—besides, Fifine will be returning, and then all will be well."

There was only one thing that afforded Bear some consolation in the sad outlook—it was the circumstance that the Professor's mental alienation had come on about the middle of the month, and she hoped, in accordance with the superstition of the family, that it would pass away with the month. She counted each day, and as the month came nearer and nearer the end, she became more and more impatient, until she could almost have chided the tardiness of the hours.

What could be more agonizing than to see her husband sit moping by the stove, if not gazing listlessly out of the window ; or else to hear him talk wildly and incoherently, under the impulse of the diseased fancies that possessed him. It was a relief even to see him pace slowly from room to room playing the hebetating airs of the gutter, although it had the effect of setting her tear ducts to work, while it put Zerafine in such a state that, as she herself expressed it, she felt inclined to nothing so much as to beat the cat.

On Fifine the effect of the poor Professor's flute-playing was quite different from that it had on either Bear or Zerafine. It neither made her weep, nor jump about with exasperation. - What it did to

her was to make her shudder. She felt—as a German expressed the sensation a little later, that is when the great war broke out—it made her feel “goose-skinny” all over. It recalled to her mind all that was most horrible in human nature—love turned to hate, sympathy to disgust. Need we wonder that, when she heard the strains, she looked to the fastenings of her attic door, shut herself in her inner room, covered her head up in old Knütz’s rug, and tried to bury herself within herself.

How thankful she was that she had not been tempted to present herself at Claus Bromm’s door. The time for that was not yet—perhaps it might never come; certainly never while *he* was there. Poor Fifine even began to feel some symptoms of wrath about the matter. “Why,” she asked herself, “should they (meaning Claus and Bear) take her good-for-nothing of a husband into the house, and believe his story as against hers?” For such, she considered, was what it came to. Because, if they considered him a fit person to be received, then they must believe that she had told falsehoods. Perhaps, in their extra goodness, they thought both were at fault, and they wanted to patch matters up. If so, they were mistaken. Other things that had gone to pieces out of sheer impossibility to hold together might be so patched up as to be made to hang one to the other; but a marriage never—never!” repeated Fifine, with a nervous setting of her teeth.

From which it will be seen that there was still some venom in the sweet, tender thing.

It was when she worked herself into these moods, that Old Knütz’s solution ever occurred to her: a screwing up of the courage, and a swift plunge from the Devil’s Bridge, or into the quiet pool looked upon by the old stone god, with his merry face, and ivy-crowned head—and the shores of the land of quietude would be sighted. She could not dwell upon it without shuddering; it was so dreadful to think of lying there cold and lifeless, and the world so beautiful, and life so rich in promise—for was it not rich in promise? And yet the thought would come again and again.

These mental conflicts—if they did not wear themselves out and end in sleep (which at last so mercifully ends all battles)—stirred up thoughts that, however bitter they might be at first, were not without their consolation. In other words, they started cogitations about the right conduct of life which, whether we call them by the name of religion or of philosophy, are the beginning of wisdom. They were precious lessons to the fair recluse; the only fault she had to find with them was that they came so late.

Leitner was away a fortnight. When he returned, Fifine had been missing nearly a month. Of course he knew, hearing as he did from one or another in the house every day or two, that nothing had been heard of her. He was a young man who did not like to be brought face to face with a mystery; and although he had written in his ironical way to Fafner of having relinquished the gospel of common sense, yet within himself he felt chagrined that an explanation which

was doubtless as plain as the multiplication table had baffled all their wisdom.

He returned late one night, and turned into bed without seeing or speaking to any one. In the morning, while he was drinking his coffee, Wendel gave him all the news. Her husband was better, but Claus she thought was worse ; no possible hope for him she opined ; it was a bad look out for Bear, and she pitied her from her heart. It was a misfortune that he had ever seen Fifine—Undine as he called her ; and she believed she was an Undine, and that the evil spirits had revenged themselves upon him for attempting to take her out of their power. Well she remembered how he defied them the night he brought her into the house. She felt then that no good would come of it, and see how ever since everything had gone wrong in the house. First, she had been spirited away ; then Claus had gone out of his mind ; then her husband had been—”

“ But surely, Mother Wendoline, it was another kind of spirits that were at the bottom of your husband’s mishap,” put in Leitner.

“ Well, perhaps a little,” said Wendel. “ I’m only showing you how things have gone wrong since that day. Besides, hasn’t my boy taken to pining and refusing his food ? And is not your own Annette looking pale and woe-begone ? ”

“ Is she ? ” asked Adolf, not without concern.

“ Indeed she is. And who knows what will happen next ? ”

“ Who, indeed, Wendel ? That something is going to happen I feel sure.”

“ What do you think it will be ? ” asked Wendel.

“ For one thing there is going to be a funeral ; our friend Nagelmann is at his hammering early this morning,” said Adolf.

“ There, you are joking again, Herr Leitner ! But tell me, do you think the lost Undine will be found ? ”

“ I hardly know,” replied Leitner, the question sending a strange tingling sensation through his frame.

Ever since he had awoke, the words had been running in his head : “ You must see what there is up in the garret to-day ; ” and here, just as if he had uttered the words aloud, Wendel put the question : “ Do you think the lost Undine will be found ? ” Certainly he had not thought of finding her in the garret ; but supposing he should ?

It was this idea, suggested by Wendel’s question, that set his nerves tingling. All the morning he thought of it ; and the more he thought of it, the more he felt that he had possibly found a solution of the mystery that had been agitating the house for a month. When he came to consider the possible motive that could have driven Fifine to take refuge in the garret, however, he was quite at a loss. He ran over every imaginable motive, but without arriving at anything that afforded a satisfactory explanation of the supposed facts. At length, in fault of better theory, he asked himself the question : “ Could she by any means have discovered that her husband had found out her retreat ? ”

When two clouds charged respectively with positive and negative

electricity come within reach of each other's attraction, they suddenly rush together, and unite with a flash. So with two globules of quicksilver, they tremble for a moment on the balance, and then coalesce with a rush. A similar process took place in Leitner's mind. "Could she have discovered that her husband had found out her retreat? The thought trembled for a moment in juxtaposition with another which had often been in his mind—the thought, namely, as to what the flautist's errand could be in the Prediger-Haus—trembled so for an instant, and then with a rush came the question: "Could he be the husband?"

"Der lieber Gott!" exclaimed Leitner, in whose mind the clash of thoughts had generated some heat. "He is the one, and he it is who has caused us all our trouble!"

Everything appeared so plain to the young man's mind—Fifine's flight on seeing him, his theft of the necklace, his hanging about the place, his visit to the garret, and his sudden discomfiture—that he wondered they could all have been so stupid as not to have seen through the mystery before.

It was afternoon when Leitner made this brilliant discovery, and such was its effect on his mind that, although it wanted an hour-and-a-half of the proper time for leaving his desk, he made excuse of a sudden giddiness—and giddy enough he was in all conscience—to depart at once. His intention in so doing had been to hurry to the Prediger-House, and deliver the revelation that had been given to him. But on his way thither a new idea struck him; and instead of entering when he came to the street, he passed on down Langenstrasse and thence along the river-side to the Suspension Bridge, where, as he was about to cross over, he met Herr Herzel, the artist. As he was going the same way, they walked together, and falling into an interesting conversation, did not notice how far they had gone until they found themselves at a wayside inn several miles from town. The artist proposed a rest and a drink, and as it was not unpleasantly cold, they seated themselves at a small table under the verandah. To the south lay the city, spread out before them like a picture, the cathedral tower burnished in the setting sun, the river rolling like steaming lava between its green and grey banks, and the diminished people and wains moving along bridges and quays like figures in a phantasmagoria.

"Did you ever think what a strange thing a town is when you look at it from a distance, and as it were abstractedly?" said Herzel, as they sipped their beer.

"I don't know that I have ever looked at it in exactly that light," replied Adolf; "but I have often wondered in what kind of Aristophanic humour the Creator must have been in when he planned his six days' work."

The artist smoked his cigarette for a moment in silence; then he laughed, and said: "Well, I can't say that I ever looked at it in that light. But when you think of it, it does seem odd."

"Odd enough in all conscience," replied Leitner. "I would not

have been deprived of the fun of being an earth-worm for a time for all the world ; it is like being at a fair."

" And yet," said the other, " it is not all a laughing matter."

" True, unless you look at it apart, or abstractedly, as you put it just now."

" I never can look at man in that way, but only at his surroundings. Directly he presents himself to my mind as an individual being, that is, other than a part of a picture, I am one with him, sympathizing with all his efforts, oppressed almost with the mystery of his destiny. To-day, now, I have been so affected with what I heard and saw of poor Claus Bromm's sufferings over the loss of the English girl he adopted, that I have been able to do nothing but hang about and talk to myself."

" There are two of us in the same boat, as far as that goes," thought Leitner.

" But the oddest thing of all," continued the artist, taking another cigarette and pushing his case to Adolf, " the oddest thing is that last night I was so full of it that I dreamed about the girl."

" What did you dream ?" asked Leitner.

" You will laugh when I tell you, and yet I can assure you I attach some importance to my dream. I dreamed that she had gone up into a little loft or attic right at the top of the house, and that she was there being fed in some unaccountable manner by birds. I saw her as plainly as could be ! at least I saw what I imagined to be her ; I don't know whether it was at all like the real thing ; I should imagine not, but you can tell me. She was of medium size, fair, almost beautiful, with a mass of golden hair—quite an ideal female figure (*Frauengestalt*).

" Not unlike," said Leitner ; " go on."

" She moved about like a ghost, with something white around her head and shoulders. I tried to speak to her, but she only looked at me with large, lustrous eyes ; I can only liken them to lakes in which one's spirit would fain bathe and disport itself."

" Bathe one's spirit in a woman's eyes, is good," said Leitner, smiling ; " go on."

" That is all," replied the artist ; " except that it seemed as if I was in some way connected with her, and bound to help her. And you say the likeness is good ?"

" It is more than good—it is marvellously true," replied Leitner. " But let us go ; it is getting late, and I have an important duty to perform to-night. I am going to take the part of Orpheus in a little comedy. I should like to tell you how I succeed in it to-morrow or next day if I might have the pleasure."

" By all means," replied Herzl ; " come to Schoenberg whenever you like ; come to-morrow."

" I will come to-morrow if I can—as soon as possible, any way ; for I feel I owe you a story after your dream."

" How can you account for my seeing the girl so perfectly ?" asked the artist.

"I don't know; I suppose you must have heard her described."

"No; except that her relation to Bromm was once or twice casually mentioned by Dr. Bleichroder to his sister in my presence, and then in a way hardly to take my attention at all. I don't suppose I gave the subject altogether two minutes consecutive thought until last night. Even then, if I had any mental image of her, it was of a very ordinary character; which is proof to me that I could not have heard any personal description of her, because beauty always makes the first and deepest impression upon the mind, and what I take to be the same thing, the memory."

"May you not have heard it, and yet have forgotten it for the time being?" said Adolf. "It appears to me that the mind is something like a photographic plate: it receives an indelible impression, but only reproduces it under given conditions."

"It may be so, of course," replied Herzl; "and looked at in that light there may be nothing in the dream; indeed I don't suppose there is any way."

Adolf was inclined to answer that there was; but he restrained himself, feeling that for the present it was best to keep his own counsel.

At the foot of Langenstrasse they parted, Herzl to proceed to Schoenberg, Adolf to go to his lodging. Half-way upstairs he met Claus Bromm, who manifested great pleasure at seeing him.

"I have been waiting to see you," he said. "I find that wretched street musician who has bothered us so has taken a lodgings right opposite, and is watching the house as if it were an enemy's camp!"

"Is that so?" said Adolf.

"Yes; come, and I will show you where he has planted himself. Little Fritz was the first to find him out."

So saying, the Professor led the way to a small window on the stairs, and pointed to the window we already know under the roof of the "Holy City." It was too dark to see anything distinctly, but Leitner thought he could make out the shape of a face against the lower pane.

"What do you think he can be after?" asked the Professor.

"It is hard to imagine," replied the other; "but warned is fore-armed, and it will be hard if we can't keep as good a watch as he. "Do you know," he continued, as they walked away from the window, "I was disturbed last night by the ghost, and am thinking of laying it to-night."

"Laying the ghost?"

"Yes."

"How will you do it?"

"I have not quite decided yet; but I think music will be the best. What do you say? Will you join me?"

"I will think about it. When do you begin?"

"I thought when the house was quite still—towards midnight."

"Come down when you are ready then, will you?"

Leitner promised, and went up to his room. He told Nagelmann what he was going to do, whereupon the undertaker eyed him incre-

dulously, and chuckled quietly to himself. Adolf thought it best not to tell Wendel; but he asked after her husband, and if she thought a little music in the night would disturb him.

"No," she said; "he is now quite well; and," she added, "thank Heaven, when he once falls asleep, nothing disturbs him till he has had his sleep out; he is a perfect model of a man in that respect. Before now I have got up and gone to a ball, coming back late in the morning, and he has never missed me from his side!"

"I should gather from that, that your husband doesn't like balls," said Adolf.

"I never knew a man with a wooden leg who did," quoth Wendel.

Leitner laughed, and said: "We do not purpose having a ball to-night, Wendel, or you should have a hop with us; but we are thinking of having a little music by way of ridding the house of evil influences."

"Witchcraft and bad spirits, for instance," suggested Wendel.

"Yes."

"I have heard say that holy water is a good thing for that, or a lucky bone, but I never heard that music was too."

"Oh, yes," said Adolf; "the Devil hates good music as he hates milk and water."

"La!" exclaimed Wendel. "But why should he hate milk and water?"

"Because there is not enough devilment in it for his liking. He does not approve of pump-and-cow combinations, preferring the honester partnership of brewer and drug-merchant. So does Nagelmann; and the Devil and Nagelmann are two pretty much of a trade."

"I never know what to make of you, M'sieur Leitner," said Wendel: "you talk seemingly serious with a laughing face, and joke with a face as sober as a corpse's."

"That is a great fault, Wendel; I must amend; I will talk seriously, and never laugh—when I cease to find anything comic in the world. Meanwhile, Good-night; and mind you don't be frightened if you hear my flageolet droning doleful music on the stairs."

Frau Grossbein wended her way upstairs, half believing that Leitner's project was another of his jokes. She, however, took the precaution to tell Fritz not to be afraid if he heard any music, or the like, on the stairs, as Herr Leitner threatened to be up to some of his tricks.

"What tricks?" asked Fritz.

"Oh, he says he is going to drive out the evil spirits that are in the house," said his mother.

Fritz made no reply, but after looking very thoughtful for a little while, he bade his mother good-night, and went to bed, taking care, however, to tumble into the sheets with his clothes on.

Leitner now prepared to undertake his great ghost-laying experiment.

But we will leave him to tell the result in his own words, and in another chapter.

(To be continued.)

AN ALPHABETICAL GRIEF.

AN aged man was seen to go
 Behind a bier, in dismal plight ;
 Crying, he seemed to say, " O woe !
 Dear heart, to me how sad is night ! "

" Eh, John, my friend, what ails thee now ?
 For thou hast lost three wives before,
 Good wives and fair, nor did'st thou bow
 Head half so low, or weep so sore."

It was a friend these words who spoke,
 Just as they reached the churchyard gate.
 " Kind friend, 'tis true, but this last stroke
 Leaves me without all hope of mate.

" My first and second low I laid,
 Nor grieved too much, for well I knew
 On whom—the fair succeeding maid—
 Persuasive words would need be few.

" Quietly, too, the third I mourn'd,
 Rebecca, for my heart had felt
 Sweet yearnings towards one so adorn'd
 That she the hardest heart must melt.

" Upon her now I've looked my last ;
 Virtue itself was she in truth !
 Where shall I now my sad eyes cast,
 Zanthippe, to match thy charms and youth ?

" Yes, friend, a fifth I seek in vain ;
 Zest—life is gone, and I complain."

C. N.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

G. P. (Chester).—You are a sharp young man, with a good temperament for intellectual and artistic work, and you should be able to do a little better with yourself than common. You could do, however, with a little more application, possibly also with more steady energy. But your intellect is fitted for scholarship, for criticism, and

for general understanding; you are likewise capable of making a fairly good speaker, and it would be well to cultivate this talent.

L. A. is full of life and vitality; full of love, too, and all "sweet influences." She seems to have a full, compact brain, well represented in the moral and intellectual directions. Her social nature is specially strong, and she will grace some home and make it pleasant with cheerful smiles and warm affections. The clouds will only be passing ones, and not too frequent; but she will be a chatterbox.

M. McA.—Thoughtful, observant, critical (very), neat, orderly, rather old-maidenly; kind, sharp, not profuse in words, rather deliberate, not to say prosy, fond of quiet pleasures, especially the ingle-side and the gloaming (of all parts of the day); a great home-bird, particularly fond of being thought well of, and very jealous of usurpers, very firm without showing much resolution; quite affectionate, full of work. Such is M. McA.

W. H. F. (Edinburgh).—The "black side" of your character is briefly as follows: you are a little morose, somewhat too exacting, too particular about trifles, and too censorious, expecting other people to be as careful in all things as you are. You hardly make sufficient allowance for other people's failings. You have to check, too, feelings of revenge, hatred, and uncharitableness. Your sense of justice is strict, but almost too narrow. Are too suspicious; perhaps a little too eager to get and have; too anxious to have everything in "apple-pie order;" too fidgety; hardly sociable enough in the broad sense of general companionship; too decided and determined; and over-anxious about the future to live freely and pleasantly in the present. You might be more polite, more gay and youthful, and more genial in your intercourse with others. These are some of your "faults," etc., but this is not your character.

M. T.—A pleasant, agreeable person, with a kindly, genial disposition; very affectionate, domestic, and sociable. Her ambition is to have a nice house and plenty of friends, to whom her house could be always open. A woman of good understanding, great practical common sense; clever with her fingers; neat, orderly, and A 1 as a housekeeper. She is almost too careful and anxious.

JAMES.—You possess more than common ability, and should distinguish yourself in some branch of study; but you appear to be lacking in hope, and so are not stimulated to the extent that you ought to be. You must "pluck up your spirits, and try." You have good perceptive powers and good understanding, and could succeed in general business, either as a buyer, or as a salesman; would be equally good as a manager and organizer. You also possess quite good mechanical gifts, and have more than common musical capacity. With the proper training could have made a capital musician. You need to avoid melancholy thoughts, be more hopeful, encourage cheerfulness, and not give way to temper. Have a good organ of Language.

W. J.—You should excel in scholarship. Have extra gifts for the study of science, and if you have the chance to do so, you should

qualify yourself for some scientific sphere, like that of a chemist, electrician, mathematician, geologist, etc. You also possess excellent abilities for an accountant and bookkeeper. Your constructive powers are good, and could succeed in engineering, manufacturing, designing, etc. Your head as a whole is well-balanced, and there is no special criticism to make, save perhaps that you might be a little more energetic.

H. B. S. (Sarum).—You are best adapted to business, although your acquisitive desire is not so strong as it usually is in those who make large fortunes. Are naturally very good-hearted, religiously disposed, and honest. Are sociable, and quite domestic. You need for a wife a woman with a round full head on the top, a bright eye, and a full rotund organization. She had better be fair rather than dark. Cannot answer your last question.

F. T. (London).—Providence, or your parents, have endowed you with uncommonly good intellectual powers. But the fear is that, unless you go to work with uncommon energy, and find circumstances favour you, you will not come up to the full height of your powers. In other words, you have more ability than "push," more grasp of mind than strength of body. Your moral brain appears to be equal to your intellectual. Space will not permit of anything like an analysis of your gifts. Your motto should be, "Work and Wait."

E. G. (Padstow).—The photograph of this young lady appears to indicate a rather reserved character. She is quiet, thoughtful, imaginative, and lives too much within herself or in "castles in Spain." She is very cautious, and rather reticent, except where she has given confidence. Is very affectionate and domestic, kindly and genial in her disposition, very neat and orderly, and of an artistic turn.

T. B. (Chester).—Your gifts are in the constructive line; you have more than common power in that direction. You could also excel in scholarship, although your memory of details and particulars is not very good. Have good linguistic powers, and could make a fair speaker. You could excel in trade, as a professional man, or in the Church. You need to put on steam a little; are somewhat inclined to go to sleep and dream, and need awaking sometimes.

J. D. W. (Swansea).—Your photograph indicates a mind of uncommon evenness and uniformity of development. You are the same one day as another; the same this year as last year, and you will be the same to the end; and you will probably live to be very old, as is the fashion of your family. You take things easily, enjoy your food (although you eat little, and plainly), sleep well, and have a conscience that seldom or never troubles you. You are a shrewd man, without brilliant gifts, but always capable of choosing the safe, straightforward path, never mistaking the side on which your bread is buttered; always to be counted upon; with a quiet, genial wit, and kindly welcome, and a sense of the value of things that never allows you to waste, although you may give much. Your motto has been, "Slow and sure."

THE

Phrenological Magazine.

FEBRUARY, 1884.

GEORGE R. SIMS.

HE leading characteristics of Mr. Sims may be told in a very few sentences. It will be plain to everybody that his head, as shown in the accompanying portrait, is a fully developed one ; that is, it is lacking in nothing that should be there. Intellect, social feeling, and moral sense, are all well represented. It will be seen that the forehead is a prominent one, full in all its parts. He is a keen observer, and has a good memory for facts, which, moreover, he stores away in a systematic manner. He is also very critical, and looks at everything with a sharply discriminating eye. He is, if anything, more of a thinker than an observer, and the subject on which he thinks most is human nature. That is his chief study, and the one to which he comes with the most natural gift. Few are so shrewd in their judgment of men as he. He possesses, too, an uncommon amount of wit, connected with a faculty which is much higher than wit, namely, humour. The Constructive power is also large.

But Mr. Sims' characteristic quality, after all, is benevolence and sympathy. He is not a philanthropist, as commonly understood. He is too strong and sturdy a man for that. But his kindness of heart is so great, that he cannot see distress or misery without doing what he can to bring relief. Next to sympathy comes reverence ; and although Mr. Sims may not be much of a devotional man in the ordinary sense of the term, yet he has unbounded reverence for the good in human kind. His worshiping place is the common or the hill side, where the lark is the sole chorister. Mr. Sims is a hopeful man, too; and though far from being of the enthusiastic type, he is encouraged to work, feeling that results are sure to come from well-directed effort.

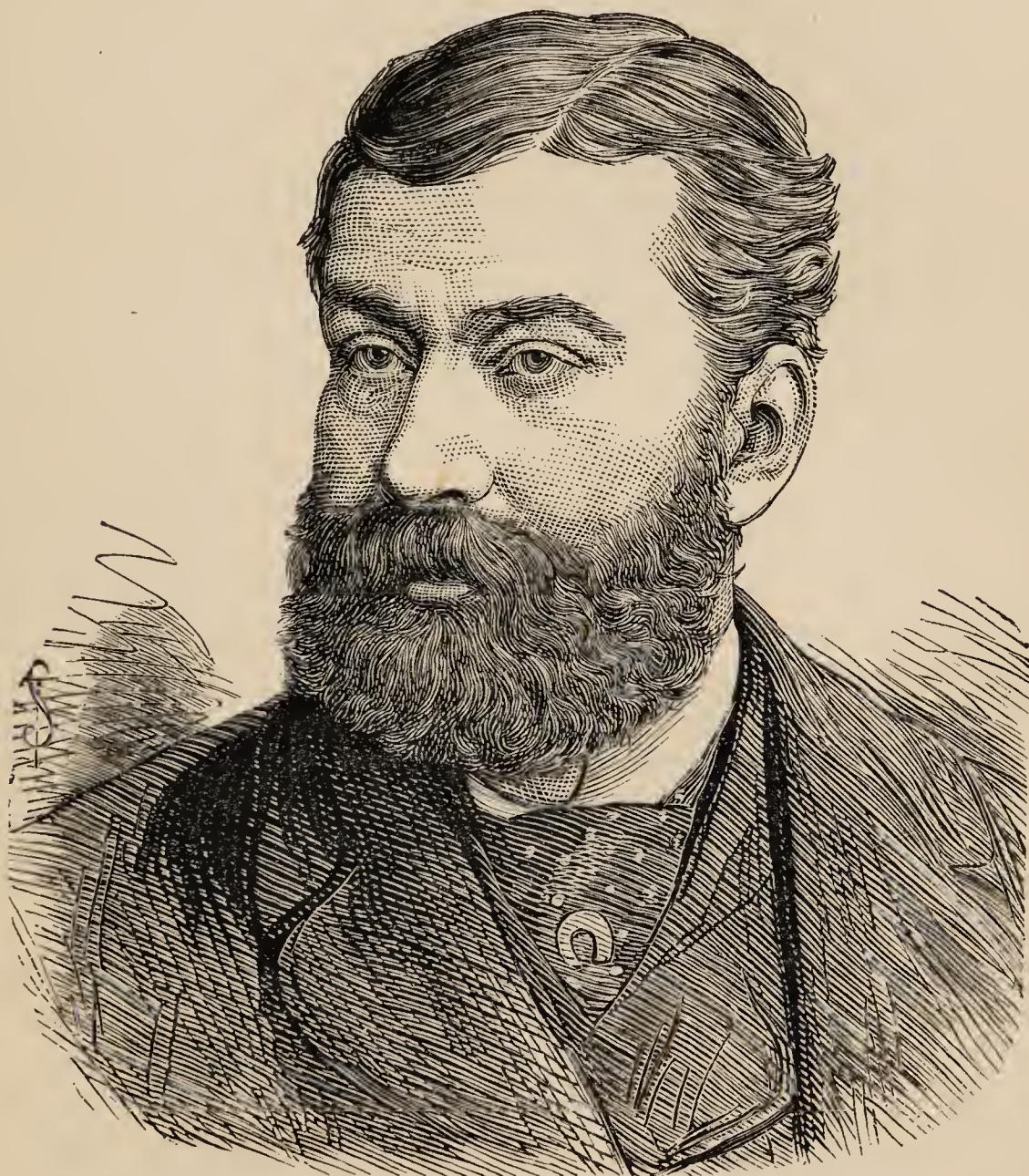
Another strong faculty is love of beauty, fondness for nature, and a keen perception of the fitness of things. He possesses, too, more than common imagination, and has besides a deal of what, for want of a better phrase, may be called spiritual insight. He is not an unbelieving man. If asked, he would probably say that, though he could not formulate all his beliefs, his faith in unseen things is great, because so many things are presented to him bearing the stamp of truth, that do not come through the ordinary channels of sense.

Mr. Sims is not a proud man, nor is he vain; but he is dignified, and has ambition. With all his gift as a writer, however, his gift for expression hardly equals his thought or imagination. He is not a great talker, and there is altogether a good deal of what the Americans would call "inwardness" in his character. Mr. Sims is not a selfish man, and could not, if he tried, make the getting of money the be-all and end-all of life.

Mr. George R. Sims was born in London, September 2nd, 1847. His mother is well known as a benevolent lady, whose labours are largely devoted to the elevation of her own sex. She is president of the Women's Provident League, and takes an active interest in other associations dealing with questions affecting the legal and social status of women. Young Sims first went to school at Eastbourne, and subsequently studied under the care of the Rev. James Emerton, D. D., at Hanwell College. He afterwards went to Bonn, in Germany, and subsequently to Paris. At the age of 21 he entered the office of a London City Merchant, where he rapidly rose to a high position, which he held until the year 1881, when he retired from the mercantile world to entirely devote himself to literature.

Mr. Sims' literary career commenced in 1874. On the death of Tom Hood the younger the editorship of *Fun* devolved upon Mr. Henry Sampson, who invited Mr. Sims to contribute to that journal. It was as the "Lunatic Laureate" of *Fun* that he scored his first success. He next undertook to furnish a column of notes each week to the *Dispatch*, and these appeared in that paper under the title of "Waifs and Strays." In 1877 Mr. Sampson projected the *Referee*, a sporting paper, possessing several novel features. Its principal contributors assumed the names of King Arthur's Knights, Mr. Sims undertaking, as "Dagonet," to supply a column of notes on the social and political topics of the day; and, under the heading of "Mustard and Cress," his notes have regularly appeared in each issue. They have carried the *Referee* into

circles quite outside the sporting and dramatic world. They are characterized by genuine humour, and unusual freedom in discussing men and things. He deals with shams with "no bated breath"; but he is ever kindly and sympathetic in his treatment of the poor, the unfortunate, and the suffering. The occasional publication of his stirring ballads in that paper has still further increased his popularity with its readers. Mr. Sims contributed to the *Dispatch* three remarkable series of papers, entitled "The Social Kaleidoscope," "The Three



"Brass Balls," and "The Theatre of Life." In these widely-read sketches, which have been republished in France and Germany, Mr. Sims put his finger upon three of the worst blots of contemporary society. Besides these works and the Dagonet Ballads, Mr. Sims has also republished from the *World* his stirring "Ballads of Babylon," and he brought out last year "The Lifeboat, and other Poems." "Zeph, and other Stories," is a reprint from the weekly journal *One and*

All, edited by Mr. Sims in 1879. He tired of editorship in a few months, however, and gave it up.

Besides his work in the above directions, Mr. Sims has won a name as the most popular original playwright of our time. His first comedy, *Crutch and Toothpick*, brought him to the front at a bound, and his dramatic successes are those of the day. Mr. Sims' plays are not only humorous and bright, but are also characterized by the kindly and philanthropic spirit of the man. A contemporary says, Mr. Sims goes almost daily from the stage rehearsal to the neighbourhood of the Board School in the Mint, where he has worked philanthropically for years, and whence he derives his thorough practical knowledge of "How the Poor Live." Among the children of the Mint and Orange Street Schools Mr. Sims is more popular than anywhere else. For he not only visits their schools and homes as a familiar friend, but takes them, 700 at once, every year, "into the country." Mr. Sims' object in forming so close a personal acquaintance with these children was that he might observe in them as they grow up the effects of education upon the lowest classes. He accompanies the School Board officers on their rounds, and is accounted one of them by many of the parents. He has thus for years had the *entrée* of every kind of house where these parents live, has gone from attic to basement, down to the "thieves' kitchen." Hence the impulse of his writing during the past three years. He was struck with the horrible misery of London, and also by the fact that he frequently saw in one house children of honest labourers and artizans herding and playing together day and night with the progeny of thieves and prostitutes. The idea of "segregation" is no brilliant origination of his dramatic genius, but a thought burnt into his mind by the sight and hearing of moral horrors he cannot write. Education he believes in more than ever, after having watched the actual experiment. He also firmly believes in temperance, which must mean taking the total abstinence pledge for these people, as one of the greatest and most indispensable levers. Wife-kicking, he says, is a symptom of acute liver disease, produced and only producible by alcohol. Cleanliness, he finds, comes with teetoalism, and so does thrift, while the wife-kicking paroxysms disappear. But so long as more and more rent is crushed out of thsse poor labourers, while at the same time their wages are perpetually minimized by capitalist prsesure, so long all other means will do no good except to individual exceptions.

Mr. Sims has not only made the condition of the London poor a life study, but he has recently dragged with him his artist friend, Mr. Frederick Barnard, on many a painful

journey. The result has been pen-and-pencil sketches so graphic and true as to suggest the "touch of the vanished hand" of Dickens. These sketches of "How the Poor Live," appearing in the *Pictorial World*, in the spring and summer of last year, contributed to the rapid rise in circulation of that journal, and being read far and wide have produced a sensation and movement of the public mind that is still increasing. "How the Poor Live" has just been published in book form by Messrs. Chatto and Windus, with the original illustrations. In his preface Mr. Sims says: "The interest now evinced in the great question of Housing the Poor leads me to hope that they will be of assistance to many who are studying the subject, and would desire to have their information in a convenient form for reference. If an occasional lightness of treatment seems to the reader out of harmony with so grave a subject, I pray that he will remember the work was undertaken to enlist the sympathies of a class not generally given to the study of 'low life.'"

The *Contemporary Review* has said that "what Bret Harte did for the American backwoods, Mr. Sims is doing for London slums, showing how much golden sincerity and pearl-white self-sacrifice may exist in the very dregs of social deposits." The *Review* also prefers Mr. Sims' ballads to those recently published by the Laureate. Certainly such poems as "Billy's Rose," and "Baby Jim," are like the best passages of Dickens done into verse. We cannot forbear reproducing "Baby Jim"—

Our little Jim
Was such a limb
His mother scarce
Could manage him.
His eyes were blue
And looked you through,
And seemed to say
"I'll have my way!"
His age was six;
His saucy tricks
But made you smile,
Though all the while
You said, "You limb!
You wicked Jim,
Be quiet, do!"

Poor little Jim!
Our eyes are dim
When, soft and low,
We speak of him.
No clatt'ring shoe
Goes running through
The silent room,
Now wrapped in gloom.
So still he lies,
With half-shut eyes,
No need to say,
Alas! to-day,
"You little limb,
You baby Jim,
Be quiet, do!"

"Told to a Missionary," is perhaps Mr. Sims' *most* popular ballad. A "Coster" dying of a cold, is visited by a London City Missionary, who is somewhat alarmed by the look of a

dog lying on his master's bed. The missionary asks if the dog is "savage," and then the "Coster" speaks—

Just look'ee here, Mr. Preacher, you're a-goin' a bit too fur,
There isn't the man as is livin' as I'd let say a word agen' her.
She's a rum-looking bitch, that I own to, and there is a fierce look
in her eyes,

But if any cove sez as she's vicious, I sez in his teeth, he lies.
Soh ! gently old 'ooman ; come here, now, and set by my side on
the bed ;

I wonder who'll have yer, my beauty, when him as you're all to's dead !
There, stow yer palaver a minit ; I knows as my end is nigh ;
Is a cove to turn round on his dog, like, just 'cos he's goin' to die ?
Oh, of course, I was sartin you'd say it. It's allus the same with you,
Give it to us straight now, guv'nor—what would you have me do ?
Think of my soul ? I do, sir. Think of my Saviour ! Right !
(Don't be afeard of the bitch, sir ; she's not a-goin' to bite.)
Tell me about the Saviour—tell me that tale agen,
How He prayed for the coves as killed Him, and died for the worst
of men.

It's a tale as I always liked, sir ; and, bound for the 'ternal shore,
I thinks it aloud to myself, sir, and I likes it more and more.
And it's thinking about that story, and all as He did for us,
As makes me so fond o' my dawg, sir, specially now I'm wus ;
For a-savin' o' folks who'd kill us is a beautiful act, the which
I never heard tell on o' no one' cept o' Him and that there bitch.

And then, although the effort made him feel like a "blooming babby," the dying coster told how the Bobbies came for the dog tax just when his "missus was dyin' wi' fever," and he had "made a mistake in his pitch." There was nothing for it but to drown the dog himself, for he could not "*lose it, to die by inches o' hunger.*" So the dialogue proceeds—

I never said nowt to the missus—we both on us liked her well—
But I takes her the follerin' Sunday down to the Grand Canell.
I gets her tight by the collar—the Lord forgive my sin !
And, kneelin' down on the towpath, I ducks the poor beast in.
She gave just a sudden whine like, then a look come into her eyes
As 'ull last for ever in mine, sir, up to the day I dies.
And a chill came over my heart then, and thinkin' I heard her
moan,
I held her below the water, beating her skull with a stone ;
You can see the mark of it now, sir—that place on the top of
'er 'ed—
And sudden she ceased to struggle, and I fancied as she was dead.
I shall never know how it happened, but goin' to loose my hold,
My knees slipped over the towpath, and into the stream I rolled ;
Down like a log I went, sir, and my eyes were filled with mud,
And the water was tinged above me with a murdered creeter's blood.

I gave myself up for lost then, and I cursed in my wild despair,
 And sudden I rose to the surfis, and a su'thing grabbed my hair—
 Grabbed at my hair, and loosed it, and grabbed me again by the
 throat,

And *she* was a-holdin' my 'ed up, and somehow I kep' afloat.
 I can't tell 'yer 'ow she done it, for I never know'd no more,
 Till somebody seized my collar, and giv' me a lug ashore;
 And my head was queer and dizzy, but I seed as the bitch was weak,
 And she lay on her side a-pantin' waitin' for me to speak.

* * * * * *

What did I do with *her*, eh? You'd a hardly need to ax,
 But I sold my barrer on Monday, an' paid the bloomin' tax.

* * * * * *

That's right, Mr. Preacher, pat her—you ain't not afeard on her
 now!—

Dang this here tellin' o' stories—look at the muck on my brow!
 I'm weaker, an' weaker, an' weaker, I fancy the end ain't fur,
 But you know, now, why here on my death-bed I think o' the Lord
 and her.

When the Lord in His mercy calls me to my last eternal pitch;
 I know as you'll treat her kindly—promise to take the bitch!

CONTRIBUTIONS TO THE MATHEMATICS OF PHRENOLOGY.

BY JAMES STRATTON.

ARTICLE I.

IT is surely impossible to contemplate the amazing accuracy which instrumental measure has imparted to many departments of science—an accuracy immensely beyond the reach of the finest unaided eye—and not feel a wish that some such services were rendered to phrenology. It is, indeed, easier to conjecture than to certify why so little has hitherto been done in efforts to render these services. It cannot be the difficulties which stand in the way. The human head is not an object which, either by its magnitude or its minuteness, its flexibility or its irregularity, defies either the application of instruments or the powers of calculation. It seems impossible that those differences in size which are so obvious to the eye cannot be measured by some uniform scale, and expressed in terms of definite known value. It may be—rather must be, shall we say?—that the extensively practised, forgetting their early difficulties when experience has rendered very little mathematical aid sufficient for their individual use, become reconciled to acquired habits, and think little more

of those difficulties which they have ceased to feel. Yet such is not always the case; for, that the ordinary specifications of size and proportions are all but intolerably painful, vague, and perplexing to some minds, is a fact publicly recorded by friendly hands, with much ability, and much more bitterness than comports with beauty in philosophical disquisition. Stand the matter how it may, this much will be readily admitted, that the increasingly rigid requirements of scientific minds, the changing social arrangements, the progress of individual improvement—in short, the interests of all (except the unprincipled quack) call for the utmost precision in estimating and recording size, which is, in the nature of the case, practicable.

Believing that improvement was possible, I have attempted it to some extent, and the results obtained have either completed the delusion, or confirmed my conjectures.

I propose, in the subsequent pages—First, to show how the human head, or cranium, may be measured by very simple means, and with an approximation to mathematical accuracy, sufficient for practical purposes. Second, to graduate a scale indicating the average size, the average range, and the extreme ranges of size which have been found among the various races of men.

After measuring the head as a whole, and determining its place in the scale of size, I propose, in the third place, to measure that whole in separate parts; and fourthly, to determine the relative size of those parts in equally balanced heads.

The principal aim, in measuring separate parts, is to furnish the eye of the observer with a more definite range or standard whereby to estimate the more minute portions—the individual organs. I have, therefore, attempted instrumental measure to the least possible extent only, which would be useful for that purpose. The principal object in view, throughout, is to remove perplexing uncertainties, in attaching a meaning to the language of the masters, and thereby to impart a proper degree of confidence to the student, and to the more advanced an uniformity in the estimating and recording of size and proportions which I believe has hitherto been unnecessarily difficult to attain.

The shape of the human head, or cranium, may be described as partly cubical, and partly spherical. The latter seems to the eye to predominate so much that, previous to an extensive series of measurements, it might readily be supposed that spherical was the only measure likely to approach accuracy. This mode was proposed in the *Phrenological Journal*, vol. viii., p. 403, and two examples are quoted which give results

very near the truth. I have no doubt of the examples being correct; but they are exceptions to a rule so general that, according to my experience, ninety-five cases at least in each hundred give results varying from 15 to 40 cubic inches below the truth. The following are specimens of the results which I have obtained :—

	Spher.	Proof.		Spher.	Proof.
Thurteil	161	160	Cordonnier	139	180
Ann Ross	87	114	Rev. Mr. M.	145	165
Clara Fisher	94	117	Allan	116	148
Linn	138	180	M'Innes	116	135
Greenacre	103	135	Adam	116	140
Eustache	115	155			

Referring to nature for farther proof, I pass from spherical measure as unsuitable for our purpose.

MEASUREMENT IN WATER.

The head or skull may be measured to any degree of accuracy, by marking the quantity of water which it displaces in a receiver of known dimensions. This mode is, of course, inapplicable, or inconvenient, in most cases, for the living head, but as it gives a standard proof wherewith to test the accuracy of every other mode, and can be easily applied to skulls and plaster casts, the following is given as a simple and convenient means of obtaining proofs.

The receiver is constructed as nearly square as possible, 10 inches long, 10 inches broad, and 8 inches deep inside. One of the sides is a plate of glass, all the other parts are of pine deal, well saturated with paint. On the plate of glass is fixed a perpendicular scale, divided into inches and tenths of an inch.

The 0, or zero of the scale, is about five inches from the bottom of the receiver, inside, which is accurately filled with water up to the 0 point before the object be immersed.

In taking measurements, the head or skull must be put into the water with the top lowermost, till the surface of the water touches the articulation of the nasal and frontal bones, and enters the opening of both ears. From the given dimensions of the receiver it will be obvious that each inch which the water rises on the scale corresponds to 100 cubic inches (*i. e.* 10 X 10), and each tenth to ten cubic inches. The use of a vernier would give single inches, or even tenths of an inch, with equal accuracy, but a practised eye will find the aid of the vernier unnecessary. It is by such means that all the proofs quoted in the following pages have been obtained.

THE CRANIUM.

To simplify the specifications which will be submitted for

investigation as we proceed, we may here enumerate the different points and lines to and from which the measurements are taken, and note their places on the several parts of the cranium.

The accompanying plate represents a skull, on which the lines and points are marked.

The anatomical parts are briefly the following:—

BONES.—O the *occipital*, P the *parietal*, F the *frontal*, N the *nasal*, M the *malar*, S the *sphenoid*, and T the *temporal*.

SUTURES.—The *Lambdoidal* articulates the occipital to the parietal bones from 3 to α , and to the temporal from thence downwards.

The *Sagittal* unites the superior margins of the parietal bones along the line 3, 15, 14.

The *Squamous* joins the temporal bones to the sphenoid and the lower margin of the parietals.

The *Coronal* touches the sphenoid at each side, and unites the frontal to the parietal bones.

The *Transverse* connects the frontal with the nasal at 22, with the malar at 29, and others more deeply seated.

POINTS OF MEASUREMENT.

1. Occipital spine.
2. Posterior margin of P at half the distance from α to 4.
3. Termination of the sagittal suture at the occipital bone.
4. Middle of the posterior margins of the parietal bones.
5. Middle of the straight line from 2 to 7.
6. External opening of the ear.
7. Middle of a straight line from 6 to 12.
On a straight line, joining 7 and 28, place —
8. Equidistant from 7 and 9, and
9. Equidistant from 28 and the parietal bone.
11. Middle of the line from 4 to 12.
12. Centres of ossification of the parietal bones.
13. On the middle line of F, equidistant from 14 and 22.
14. Middle of the coronal suture.
15. Middle of sagittal suture.
16. Half the shortest line from 12 to the sagittal suture.
19. One third the horizontal line from 35 to 12.
22. Nasal vertex or middle of the transverse suture.
23. Internal angular processes of F.
28. Commencement of the temporal ridge.
29. Junction of M with the external angular processes of F.
30. Centre of the forehead.
32. Middle of the line joining 29 and 35.
35. Centres of ossification of F.

The numbers selected to indicate the points of measurement, though not in regular series, answer our purpose equally well, and have also the advantage of being familiar to the student, in relation to the subjacent parts of the brain.

GENERAL DIRECTIONS.

The specified points of measurement will generally be found to correspond nearly with the centres or margins of phrenological organs, but such is not necessarily or uniformly the case. For our present purpose the anatomical points are to be adhered to, without reference to the phrenological organs.

In some cases local irregularities of surface occur at some of the points, most frequently at 3 and 19. These are to be avoided or allowed for in taking measurements.

The best examples to begin with are skulls or finely executed casts, which show the articulations, &c., distinctly. The most difficult are plaster casts of heads. If these have masses of stucco representing hair, it is impossible to measure them accurately.

The following may be suggested to beginners as an easy mode of preparing to measure :—

Having selected a suitable cast or skull, mark with a pencil or bit of chalk the points 4, 12, 29, and 35 ; join these by lines, and mark the points 11, 19, 32. Finish the pointing in the following order :—1, 3, 15, 30, 22, 23, 28, 7, 2, 5, 8, 9.

It will readily be understood that, in taking the measurements which will be proposed as we proceed, an ordinary degree of precision is requisite. Accuracy within the tenth of an inch is essential. The numbers being all used in evolving cubic results, an error which might appear trifling in itself may assume seriously vitiating importance when multiplied to the extent unavoidable in the specified calculations.

In measuring, the callipers is the only instrument required. In practice, I have found the time and labour very much abridged by a peculiar construction of the instrument. It has a scale attached, on which the inches and tenths, "imperial standard," are marked the full length ; these can be accurately read as soon as the instrument is adjusted to the intended points of measurement.

CUBIC MEASURE.

The human head, or cranium, may be measured as an irregular cube, with a degree of accuracy all but perfect.

The average length, breadth, and height can be deduced from a number of measurements—the more the better for precision ; but the fewest by which the requisite accuracy is attained is the best for practical utility.

I think myself warranted, by a series of experiments which it is impossible to detail in any reasonable number of pages, to submit the following as a formula which fulfils the essential conditions of sufficient accuracy, simplicity, and applicability to every variety of case.

To find the average

Breadth.—Add the measurements from 5 to 5, 7 to 7, 8 to 8, and from 9 to 9; divide the sum by 4; the quotient is the average breadth.

Length.—The measurement from 3 to 30 is the average length.

Height.—Add the measurements from 6 to 16, from 1 to 3, and from 22 to 13; divide the sum by 3; the quotient is the average height.

Multiply the height by the breadth, and the product by the length. The result represents the cubic measure.

EXAMPLE.—R. R. Roy—PROOF, 190.

$$\begin{array}{rcl} 5.6 + 3.2 + 2.6 = 11.4 \div 3 = 3.8 & \text{Height} & \dots \dots 3.8 \\ 5.4 + 6.4 + 6.2 + 5.4 = 23.4 \div 4 = 5.85 & \text{Breadth} & \dots \dots 5.85 \end{array}$$

190
3.04
19.0

22.230

From 3 to 30.....Length.....8.4

8.8920
177.840

Cubic inches 186.7320

TABLE OF CUBIC MEASURE.

HEADS.	Height.	Breadth.	Length.	Cubic M.	Proof
Dr. Gall	3.9	5.8	7.5	170	175
Rev. Mr. M.	3.9	5.5	7.7	165	165
R. B. Sheridan	3.8	5.6	7.8	165	166
F. Cordonnier	4.	6.2	7.2	178	180
Rajah Ra. Roy	3.8	5.8	8.4	185	190
French, M.D.	4.	5.8	7.6	176	178
Mr. Goss	4.	5.2	8.4	175	178
Robert Owen	3.7	5.4	7.6	152	155
Mr. King	3.8	5.8	7.4	159	160
Mr. Terry	3.9	5.5	7.5	160	160
Horace Smith	3.7	5.6	7.7	160	165
Ann Ross	3.3	5.1	6.6	112	114
Clara Fisher	3.2	5.1	7.	114	117
Eustache	3.6	5.6	7.7	155	155

MURDERERS.

Hare	3.3	5.8	7.7	150	150
Burke	3.4	5.8	7.5	148	148
Allan of Aberdeen...	3.6	5.4	7.5	146	148
Adam of Inverness	3.6	5.5	7.2	143	145
Greenacre	3.3	5.5	7.3	132	135
Courvozier	3.8	6.	7.7	176	180
Linn, Parricide	3.8	6.2	7.8	179	180
Thurtell	3.7	5.6	7.6	157	160
M. M'Innes	3.5	5.3	7.3	135	135
Dean	3.5	5.9	7.3	151	152
Martin, Parricide ...	3.5	5.5	7.1	136	138

SKULLS.

Robert Burns	3.6	5.3	7.6	145	145
Dr. Spurzheim	3.7	5.6	7.	145	145
La Fontaine	3.5	5.6	7.6	149	150
Swift	3.3	5.5	7.2	130	130
King Robert Bruce	3.4	5.4	7.1	130	130
Gen. Wurmser	3.2	5.3	6.9	115	115
Mil. of Vienna	3.	4.9	6.4	94	95

CRIMINAL.

Haggart	3.2	5.	6.9	110	110
Bellingham	3.2	5.3	7.1	120	120
Nisbet	3.2	5.	7.3	115	115
Griffiths	2.8	4.8	6.9	93	95
Tardy	3.4	5.4	7.3	128	130
Chinese Assassin ...	3.3	5.1	6.5	109	112
Agnes Clark	3.	5.	6.7	99	100
Chatham Convict ...	3.2	5.4	7.5	130	130
Buchanan	3.1	5.1	7.1	114	115
Cung. Debtor.....	3.1	5.2	6.7	108	110
French Soldier	3.2	4.9	6.4	100	100

NATIONAL.

Icelander	3.1	5.2	6.9	110	110
Celt	3.1	5.	7.6	117	120
Swiss	3.2	5.3	6.6	112	115
Ancient Greek	3.3	5.2	6.7	115	118
Circassian	2.8	4.6	6.5	84	84
Armenian	3.2	4.6	6.6	97	97
Chinese	3.	5.3	6.5	98	100
Hindoo	3.1	4.8	6.8	103	105
Burmese.....	3.	5.	6.	90	90
Ceylonese	2.8	4.8	6.4	86	88
Native of Java	3.2	5.2	6.5	108	110
Papuan Islander ...	3.2	5.6	7.	126	130
New Holland Chief	3.1	5.	7.1	110	112
N. S. Wales Female	2.9	4.4	6.3	80	82
New Zealander	3.1	5.	7.	108	110

Moor	2.9	4.5	6.5	85	88
Peruvian.....	3.2	5.1	5.6	92	94
Negro	3.1	4.8	6.8	101	102
Ashantee	3.3	4.8	7.	111	112
Mozambique	3.1	5.1	7.4	117	120
Caffre Female	3.	4.6	6.9	95	95
Esquimaux	3.	4.7	6.4	90	92
Esquimaux	3.	4.7	6.8	96	98
North American Indian	3.	5.	5.8	87	90
Carib	3.	4.8	7.2	104	106
Peruvian	2.9	5.3	5.8	89	92
Brazil Indian	2.9	4.6	6.4	85	88
Chilese	3.	5.	6.4	96	98
Araucanian W.	3.1	5.2	6.5	105	105
Ceyl. T. T. Boy	2.8	4.3	6.5	78	82

The examples given in the Table have been selected from those most likely to be familiar or accessible to phrenologists in this country. The majority of the casts are from O'Neil of Edinburgh. They are fully described in the "Phrenological Journal," "The System of Phrenology," by Mr. Combe, and other leading works on the science. Other casts of the same figures will probably differ slightly in some of the measures—will certainly do so, indeed, except taken with great care from the same mould; but such difference will not affect the main question in hand, namely, the approximation of the proposed measurement to the proof obtained in water. This, I respectfully submit, is sufficiently near for practical purposes, and sufficiently simple to be applicable to all cases.

A nearer approach to fractional accuracy may easily be made, with the same formula, by those who think it desirable. No extraordinary care has been exercised in preparing the Table. Fractions beyond the first decimal place have been dropt, and the cubic dimensions are expressed in the nearest integers. In short, the aim has been to exhibit such results as the student may readily obtain, after sufficient practice has given an ordinary degree of accuracy in executing the measurements and calculations.

MR. JOHN LOBB, of the *Christian Age*, has just brought out the first number of a *Theological Quarterly*, which cannot help but be of immense value to ministers and theological students, as well as to general readers. It comprises 160 pages of well-printed matter, and considering that it is also exceedingly well edited, constitutes a capital two shillings' worth. The contents include half-a-dozen articles of the very first value.

THE STUDY OF PHRENOLOGY MADE EASY.

CHAPTER VIII.

The advantages to be derived from a study of phrenology are very great as applied to marriage. All the laws of our being are distinct and fundamental, and need only to be understood to be properly applied; but the responsibility of the phrenologist is very great, for those who are ignorant of the laws, yet anxious to avail themselves of the benefits to be derived from applying them, place great confidence in those who profess to understand them. Very great good can be done and most serious evils avoided if professors of phrenology were always competent to guide others.

It will be found that physiology and phrenology properly understood and applied are of very great importance in feeding, clothing, training, and educating children, for it makes a great difference as to how a child is fed and clothed. To a very great extent the child is what its food makes it. Infants that live on the milk of cow's fed on brewery slops are not so healthy as those that are fed on the milk of a healthy mother. The cow that lives on distilled slops is not healthy, and therefore her milk cannot be. In proportion as the food is adapted to the purposes for which it is taken will it do its work well. Let two children, twins, after they are weaned, be fed, the one on seal oil, as the Esquimaux child is, and the other on bread, vegetables, nuts, and fruit, and a distinct difference will be seen. Let one child live on only one article of diet, and the other on a variety of suitable articles, and a difference will be seen. Let one child live on pork, and sop its bread in the dish or fat, and the other live on bread and fruit, and still another kind of difference will be seen. Let one child be fed at regular times, and in uniform quantities, and the other fed irregularly at all times, without reference to quantity, and a difference will be seen in favour of the regularly fed child.

The same is true in cleansing and clothing children. All children are better for being properly cleansed and clothed. Nature makes a great difference with children to start with. Some have more mind and brain, better health, and quality of organization than others.

The physiological and phrenological teacher is able to take these differences into account, and train and educate accordingly. Some will have too much brain for the body, and others too much body for the brain. In that case the greater or stronger needs to be restrained in action, and the weaker

encouraged, so as to secure balance of power and spheres of life adapted to peculiarities of strength or weakness of organization. The experience, observations, and doings of the child help to educate it; and the influence of others, and the habits formed, aid very much in directing the mind of the child. Children that begin on a certain course, and are surrounded by certain influences are very liable to continue in the same direction if left to themselves ; and if they pass the period when the sex principle asserts itself, they are very liable to become established in their character, whether bad or good ; if bad, nothing but superior power can produce a radical change. If ever so bad before the age of puberty, and taken away from all their old bad associations and influences, and cleansed, clothed, and fed properly, and something furnished for them to do, and suitable instruction given, ninety-five per cent will come to be good men and women. So says Miss McPherson, who has gathered several hundreds of the homeless and outcasts of London, and taken them to Canada, and found homes for them. It, however, requires about two years' careful training and pleasant surroundings to establish a change for the better.

One important object of education is to cultivate the weaker powers of body and mind, with the object of strengthening and increasing their power, and to carefully guide the action of the stronger powers, so as to prevent their perversion ; and none are better able to decide on the larger or smaller powers of the body and mind than the physiologist and phrenologist. Besides, some have special gifts for certain studies, while they are equally deficient in capacity to pursue other studies ; consequently some children need more assistance in pursuing some studies than others.

Where there is a decided talent for any particular pursuit, such as learning languages, drawing, painting, music, oratory, mechanics, inventions, &c., their study should be favourable to their perfection in these various studies, and thus be teachers of the art and follow it as a profession. But when a child is defective in Destructiveness, Conscientiousness, or Friendship, or developed to excess in Acquisitiveness, Self-esteem, or Combativeness, then special effort should be made to cultivate the smaller and restrain the action of the larger, so as to prevent their perversion or too predominating influence. None of the schools of the present day are adapted to the special culture of the different feelings. Where there are special deficiencies, or excesses, it is the result of some powerful stimulus, or sudden check of nervous action on the part of the mother, or an hereditary transmission or an excess of defect.

In almost every town I visit one or more children are brought to me who have been to school for years, but cannot learn their letters, yet are clever in other ways; can work, but cannot study. I find them either defective in the nervous system, or the perceptive faculties. Occasionally I find a fully developed brain, in all its organs, and yet quite stupid and unable to think or put ideas together, or to carry on any process of mental action. They are a puzzle to the phrenologist until he finds out that in every instance one, or both, of the parents are very dissipated in one way or another.

Those who are ignorant of these conditions think phrenology is defective if an organ does not show its power according to its size, in all cases. The student of phrenology has to learn all these conditions gradually and by experience, for he has no one to instruct him, or even to give him a hint. None are more exacting or more quick to notice every slight mistake, according to their judgment, than those who seek phrenological descriptions. They expect everything to harmonize with their opinion of themselves, supposing, of course, that their whole minds are fully developed, and all their powers have been fully tested besides.

Every one has to learn his own lesson, and some are better fitted by nature to learn and practise phrenology than others. Some persons have to be corrected of one erroneous impression; they suppose that every child, especially their own, has developments adapted to some particular calling, which is far from true in most cases. It may so happen that the union of the two strong powers of both parents may give them such a favourable combination of talents that they may have even a genius for some particular calling, but as a general rule there is no special arrangement in nature to make one exactly fitted for one calling and another for another calling. In many persons genius is but partially developed, they having, perhaps, all the faculties but one or two to make a complete genius in one thing or another. Some have very favourably developed intellectual powers, with a large brain, a weak constitution, and a small animal brain. In such cases the intellect is not vigorous, and the individual is dependent on others through life; while one with good health, and a heavy base to the brain and an inferior intellect, may earn his own living and be independent.

A good practical phrenologist, with large perceptive faculties, and comparison, may be of great service to parents in governing children, in educating them to the best advantage, and in selecting their calling in life, also in choosing persons for the kind of work that is necessary to be done.

A PECULIAR TRAIT.

"Talking about peculiarities of men's minds, I heard Senator Beck tell a queer story the other day," said a gentleman to some friends the other night, according to a correspondent of the Louisville, (U.S.) Courier-Journal.

"We were all discussing this subject, when Senator Beck remarked that he thought a peculiarity of his brain had done him a great deal of harm in his life. 'I first noticed it,' said the senator, 'when I was a boy going to school in Scotland. I had a strict old preacher for a tutor and, with a number of other boys, went to the parsonage to be educated. One night I was very sleepy, and still had a long Latin lesson to get off. I tried hard to learn it; but almost before I was aware I would be dozing. At length I read the exercise through in a half dreamy condition and, with the Latin all a jumble in my head, I went to sleep. I awoke the next morning with my brain thoroughly clear, and strange to say, all the ambiguities of my difficult lesson were made plain, and I read the Latin without a balk. The same thing happened a second time, and I again found that, when I went to sleep with a confused idea of my lesson, learning it while half dozing, I awoke with all the knotty points unravelled. It became my custom after that to read my tasks over just before going to bed, and I never failed to have them in the morning. My strict old tutor saw that I never studied, and thought one of the other boys was helping me to learn them. At length he gave me a page of Livy to translate, and told me if I did not have it for him the next morning he would flog me. He then forbade any of the boys to come near me, and watched my actions. I read the lines as usual before going to sleep, and sure enough the next day I had them pat as you please. He never troubled me after that. Well, the year passed by, and I found my faculty still clinging to me, till I began to put too much faith in it, and depended almost entirely upon my mysterious helper. Sometime ago a phrenologist came to examine my family's heads, and they all went wild over him. I paid no attention to their talk, though my wife urged me to give the man a trial. One day, however, he met me, and was so persistent that I at length sat down to him. He said that he would examine my head for 3 dollars, and give a chart for 5 dollars. I told him 3 dollars was all I would throw away, and he began to name my characteristics. At length he said: 'You have one faculty that is fully developed. It is spirituality. You have that faculty developed to a remarkable

degree. You would have made a fine medium. Your mind is capable of working separate from your body, that is, it can perform any mental labour while the body is at rest and knows nothing of it. You sometimes solve difficult problems while you are asleep, and wake up in the morning without knowing that you have been at work.' 'Here are 5 dollars,' said I; 'a man who knows as much as you do deserves it.' 'My strange faculty,' continued Senator Beck, 'whether it is spirituality or not, is growing weaker. I can hardly explain the action of my mind during these abnormal spells. I see the lines and words before my mind's eye and, without knowing the process or, indeed, being aware of any process, I work out the problem.'

"You remember John Sherman's anecdote of Beck," continued the gentleman. "Beck was working day and night on the tariff bill, when a member wondered how he got any rest. 'Oh,' said Senator Sherman, who was present, 'Beck rests when he makes a speech.' A man who can work when he should rest may be pardoned if he rests when he should work."

REMARKS ON DR. GALL'S THEORY CONCERNING THE ORGANS OF THE BRAIN.

BY DR. C. W. HUFELAND.

Application to Physiognomy.

It is certain, that should the physiognomy of the skull be in general confirmed, it would offer more reality and certainty than the physiognomy of the countenance which Lavater taught, as it respects solid and firm parts, while the face consists, for the greater part, of soft and changeable features. Indeed, the skull alone furnishes us, properly speaking, with a physiognomy; that is, a doctrine or science of natural qualities or properties: while the common physiognomy is (more correctly) rather pathognomy, or the science of the affections and passions of man, as far as they can be expressd on the countenance, and gradually give it a certain form and character.

But still, for the reasons above stated, craniology affords us no certain physiognomy as applied to individuals.

Application to Education.

It would be a great abuse of this doctrine to determine at once the moral and scientific propensities of children from the fancied organs of their skull, and fix their education accordingly. It might make many a one wretched.

But still, it may in general serve to direct our attention to the early development of propensities and tendencies of character, and to the necessity of early repressing bad and encouraging good qualities; as by these means the several organs would be either impeded or promoted in their growth, and even in infancy determined and fixed for life. It may also help to destroy the generally prevalent and fatal mistake, that children are to be trained to good conduct merely by instructing and convincing their understandings, and never by inspiring them with implicit faith and blind obedience, though many things in this age can only be believed, not comprehended, and many virtues must be made a matter not of insight but of mechanical habit. The evil of the contrary practice is this, that by waiting till the duties of life can be comprehended, the time is lost when they can be rendered habitual and, as it were, natural, so that they in future remain mere notions and opinions, not deeply rooted and seemingly natural feelings. Gall's doctrine shows, that by mechanically hindering a bad tendency from coming into action, (whether by external motives or not), the organ is prevented from developing itself, and the root of the evil is destroyed; and in like manner by cultivating and strengthening good habits and thoughts (though by mechanical means) in childhood, the organs by which they act may be so developed and improved, that the tendency to good may be increased. In this way we may cultivate in men, physically as well as morally, a moral and pious nature, undoubtedly far more valuable than the artificial talents so elaborately produced by our modern systems of learned education.

Application to Morals.

This doctrine, generally accepted and applied, is certainly advantageous rather than pernicious to true morality. It leaves the mind free, as has been already shown, though it points out how far it is limited by certain pre-determined tendencies to evil; and in this it also impresses upon us the necessity of moral culture, in order to subdue those tendencies, and thus raise the worth of morality as well in general as in particular instances, by making the difficulty of the struggle more apparent, where nature has given strongly developed organs. It is true, it teaches also that at last, in extreme cases, the tendencies may be so decidedly preponderant as to be no longer governable by the will; yet here also it leads us to feel indulgence and compassion towards those morally unimproveable men whom (viewing them in this light) we cannot possibly hate, but must pity, as those who are

incurably diseased. It shows us also, and this is of peculiar importance, that it is by education that morality is fixed and secured to us, as our own inmost property, and that it is only by the influence of motives raised above this life, that is, by religion, that a defective organization can be remedied, the natural organic impulses subdued, and man determined to what is good and holy, even against his inclination and his will.

But it would be otherwise were we desirous to determine by this doctrine individually the moral worth and character of men. This is not to be known by any art which lies in the fingers, by any swellings or protuberances of the skull: indeed, if we seriously reflect, we shall be convinced that the judging of the moral worth of others is, generally speaking, not the office of men who are so little able to judge properly even of their own worth. But mixing with moral judgment a physical observation like that of Gall's doctrine, what errors would not be committed, how often might the bad man be fancied good, and what is far worse, the good man be deemed bad! He who had conquered decided propensities to evil (the highest triumph of virtue), and raised his mind to purity and goodness might still appear to be a dangerous, and be a suspected man; while he who had no organ of vice, and whose freedom from it would, therefore, suppose little virtue, would be esteemed, compared with him, an angel of light.

Application to Jurisprudence.

The influence of this doctrine upon criminal justice is important. If we assume a predisposition to certain crimes in the physical organization of the subject, his criminality may be deemed less, but he himself becomes more dangerous; criminals enter into the class of sick men, and punishments are remedies. Where a cure is possible, occupation, instruction, punishment, are to be considered alike as means of cure; but where all these are of no avail, when it seems that the power of the ill-disposing organ is so predominant that it can no longer be regulated by the will, then the individual is to be treated like one insane, removed from the great body of society, that he may not injure, or possibly infect it. This separation cannot always be effected by entire seclusion; he is dangerous to every one, and the life of one so useless and wretched may be of no worth at all. It may be necessary (to use a Mosaic phrase) to cut such a soul off from his people, not as a punishment, but for the reason that makes the surgeon amputate a useless and incurable limb. This doctrine, therefore, instead of leading courts of justice to be unwisely

mild and gentle, should rather make them severe in their judgments, not indeed, with a view to punish a fault that could have been avoided, but in order to prevent crimes in future, and form a conviction that there are no other means of individual reform, or general security.

But of course the general application only of the doctrine is meant, and on no account a particular application to individuals. The magistrate has never any thing to do with the moral worth of the subject, his concern is only with his actions. He has no right to infer the probability of future violations of the law, but from previous offences ; and though he should infer, from long continued and repeated acts, a strong physical impulse, he has no right to form such inference from an examination of the organs of his head ; the less so, as there still prevails so much uncertainty in the forming of individual judgments.

This applies also to judicial medicine.* The organology is not yet advanced far enough to furnish grounds for determining the greater or less culpability of the individual ; and if it were, it would not materially affect the administration of justice, for it has been shown that that strong natural impulse to commit a crime which might lessen his moral guilt, would at the same time render him still more an object of punishment, politically, in reference to the greater danger to the public from the influence of that natural impulse.

Application to the practice of Medicine.

Though I estimate the new discoveries of Dr. Gall highly, as enlarging our medical knowledge, I cannot yet convince myself of their utility in practice.

The only cases in which they might be useful are those of the diagnostic and prognostic symptoms in diseases of the mind. We might be often able to determine, with greater probability, the seat of the suffering mental power, and to judge of the probability of cure from the more strong or weak development of the organ.

But in the cure of diseases, there seems to me to be no new and essential remedy afforded, for the knowledge we already have concerning the functions of the brain and nerves has taught

* *Medicina Forensis.* This is a topic in the administration of justice in Germany, unknown, at least as a distinct branch of study, to our English practitioners and lawyers. But it is considered of so much importance, that lectures are read upon it regularly in all the great universities. It comprehends all those subjects upon which medical men are in the habit of giving their testimony in courts of justice, of course all the symptoms by which poisoning, wilful murder, the birth of a bastard child, dead or alive, &c., are to be judged of. A great variety of matters are included in it.—ED.

us the use of topical bleeding, the pouring of cold water, &c., in cases of fever and madness, and also where the external nerves, viz., of the genitals are debilitated, to apply stimulants to the spine, &c. The only thing in which Gall's theory might be of use, would be the more exactly ascertaining the place where local remedies are to be applied, when single organs may be particularly affected; yet even this advantage does not seem to me to be attainable, so as to render it of essential worth, for neither the operation of the remedy, nor the seat of the organ can be ascertained so exactly as to justify our presuming that this topical application may be eminently useful. It is certain that bleeding, or applying cold water, does not affect the spot alone where the application is made, but the whole head, and we may be assured that if the temperature of the whole brain be made more low by such means, or if it be raised by the application of stimulants, the individual organ will also be affected in like manner. Were it otherwise, did much depend on the exact application upon the morbid organ, it would be a fatal circumstance; for, as the extent and bounds of the several organs cannot be exactly defined, and a morbid organ lies very near others in a healthful state, that application which might be useful to the morbid organ, might at the same time injure the others. The places, therefore, for the drawing off blood are more properly chosen where the blood vessels within meet in large branches, or particularly unite with the external vessels.

TWO AUSTRALIAN WORTHIES.

A Victorian friend sends us two photographs, with a request that we would "devote a page or two to the delineation of two of Australia's eminent men." The photographs are those of the Right Revd. Dr. Moorehouse, Bishop of Melbourne, and the Hon. James Service, Premier of Victoria. The latter is a very good photograph, but that of the Bishop is evidently taken from a painting or an engraving, and is not so trustworthy; for, as a rule, artists, by not knowing phrenology, fail to get those nice shades of development in the head that have so much to do with correct expression.

But if the photograph of the Bishop is a correct one, then his lordship is a most remarkable man. It need hardly be said that he is a man of great intellectual power. But in this respect there are hundreds of men in his diocese his equal, and probably many his superior. There are, however, but few who come near him in regard to moral power. In this respect

his head is a study. Benevolence is very large and active, and he must be noted for his genuine benevolence. Veneration is also very large, inclining him to worship and devotion. Conscientiousness is equally well developed, and he should be especially known for his keen sense of justice, and for his lofty ideal of truthfulness. Then, too, Hope is large, giving him a light buoyant spirit, a calm, and even a joyful look at the future, and great enterprise. His greatest moral characteristic, however, is that which comes from the organ of Marvelousness, or Spirituality, the function of which appears to be to give faith, or religious imagination. He realises the future life, his mind opens up to things unseen, and there is a reason in the operations of his mind that transcends the bounds of ordinary logic. The social, selfish, and self-preserving elements are strong. He is a man of iron will, and great determination of character. He should be known for the easy flow of his language, and for a certain quiet eloquence when his feelings are roused.

The Hon. James Service is of quite a different type. He is a man of great intellect, but it is an intellect of the practical class. He does not deal in abstract principles so much as in facts. He is a great observer, a great systematiser, and as sharp as a Toledo blade in his criticisms. Few men are so seldom mistaken in their first judgment of things, or of men. He is not naturally a great talker, but with practice he should become a good speaker, mainly because his ideas are so well arranged that he has no difficulty in telling them when necessary. He is a man of great will, great resolution, and immense working power. He is from a family noted for its working power, and for its long life. And if he does not break his back, or "happen an accident," he will live to exceed the normal three score years and ten. He is a sociable man, fond of company, and able to adapt himself to all classes of society. His humour is a peculiar faculty, and enables him to enjoy men's company, as well as to turn them to profit. Not many men are such good judges of character, and so well qualified to govern men. And he does it not so much by command as by influence. His natural gifts are such as would have fitted him for medicine and surgery; for engineering; for navigation and exploration; for farming; for commerce; or for the study of general science. He would have made a humorous writer if he had given his mind in that direction.

FIFINE AND HER FRIENDS;
AN ATTIC CRUSOE.
BY CAVE NORTH.

CHAPTER XXIX.
LAYING THE GHOST.

"This is the record of Adolf, the son of Johann, the son of Melchior, concerning the laying of the ghost of the Prediger-House, written to his friend and sworn brother, Fafner, this day, etc." Such was the beginning of Leitner's account of his night's doings, thrown off while he was yet under the influence of the heat and excitement of the adventure. But we will omit some of the opening paragraphs, in which he sets forth at length what we are already acquainted with, namely, his happy guess at the ghost's individuality and the flautist's identity, together with his meeting with the artist, and what came of it. He then proceeds :

"When I reached the house, I found the Professor anxiously gazing through a small window on the stairs at the face of the flautist, who, he has discovered, has taken up his lodging at the house 'Zum Heiligen Stadt,' opposite ; since which time he has hardly taken his eyes off the window. From his outlook up there the scamp can observe all our goings out and comings in, and much else besides. I need hardly tell you that I looked upon this fact as confirmation of my theory 'strong as holy writ.' However, following the method I had adopted, I said nothing of my thought, but told him presently that I intended that night to exorcise the garret ghost in order that no one else might be terrified by it as the itinerant player had been, taking care, however, that he should regard it as a joke rather than seriously.

"Zerafine looked rather alarmed when she heard of the proposed escapade, and advised me to let it alone, saying she had heard of a man having an iron crowbar broken in his hand, with which he was trying to open the door of a haunted room. The gentle Bear smiled alike at my valiancy and Zerafine's fears ; seeing which, Zerafine bridled up a little, and said it was all very well for those who had not long cast their milk teeth to presume because of a little book knowledge, and fancy they could teach those who had seen for themselves ; to which Bear replied in her placid way—

" 'Sei gutig Zerafine ; if there is a ghost, and it is of good, it will not hurt him ; while if it be of evil, it will not be allowed to do so ;' which you will grant, lieber Fafner, is a most amiable philosophy. Sooth to say, it calmed the chafed spirit of Zerafine, who with the good humour that best becomes her presently cracked a couple of jokes at my expense. She advised me to put on my Pickelhaube to protect my sconce—

" 'And yet,' she added, 'it is not the case but the contents that are weak, so perhaps you had best not put it on, for the sight of war-

like accoutrements has naturally a tendency to stir up pugnacious feelings, which the sight of an innocent and confiding head would mollify rather than rouse.'

"Thou art the most genial of the feline race, Zerafine,' said I, 'and if I were king or kaiser, I would employ thee to take down the conceit of some of the moustached warriors who fill so large a space in the streets, and in their own eyes.' So I said truly, Fafner; but tell it not in Gath.

"Then said Zerafine, who, like Beatrice, is not to be put down, 'Oh, I would make a rare schoolmaster for these messieurs, and nurse too, I warrant you; for when they came to me with their broken heads, I would see that they did not lack for addition of sense so long as there were calves' brains to be bought!'

"This speech greatly tickled Claus Bromm, who entered the room just timely to hear it, causing him to laugh as he had not done for many a day.

"If,' said he, 'she gave the poor fellows but half the tongue she proposed to give them of brains, they would speedily mend in order to preserve whole what little they had by nature!'

"If it were only the means of preserving us also,' replied Zerafine, 'from witnessing their effects, we might piously thank Heaven. But, as I live, here comes another of the ghost-layers! Take care, Fraulein; that you do not raise more than you can lay!'

"These last words were addressed to Annette, who had begged to be allowed to accompany me, although I had given her no hint of my suspicions. The dear girl had such confidence in me that, like the child leaping to its father in the dark, she had no fear where I had none; indeed I believe she thought if there was any it was her place to be by my side.

"But now had arrived the hour for my adventure; it struck eleven from the cathedral clock. I had fixed this hour so that we might be the less liable to interruption either from without or within. I had sent Wendel to bed beside her snoring husband with a childlike shudder, and Nagelmann to his club with a sneer; while Nussbaum, with a laugh at my joke, consented to set one of his waiters to watch the street door to see that no intruders entered.

"I had provided myself with two instruments—my flageolet and a long iron chisel; if I did not succeed with the one, I should in despair proceed with the other. I confided the latter to the keeping of Annette, who as my right-hand man or woman, was not to budge from my left hand. You are always safest with a woman under your bridle hand, my dear Fafner; that, however, by way of parenthesis. In her right hand she was to carry a lighted taper—like gentle Peace—with which she was to show me the way to mount. Behind us twain came Claus and Bear, each with a burning taper. Zerafine came behind, but without a light; she swore she would carry nothing but sticking plaster and ointment. Thus battalioned we emerged from the Bromm dwelling—having taken previous care to give Beauty in charge to Hans, for fear of his becoming excited and uproarious—

and began slowly to ascend, I opening upon my flageolet with a low piano movement from ‘Orphée aux Enfer.’ At first I feared trouble from our rear-guard, who gave some smothered intimations of tendency to laugh; but I was happy to find, after half-a-dozen steps upwards had been taken, that a stronger emotion was taking possession of Zerafine’s volatile soul. On arriving at the Nagelmann landing, I struck into an *ailegretto* passage. As we neared the Grossbein door, I drew out the lilting notes, and softened them down, until—like the jig and air played at Scottish Mary’s execution—they became more like a funeral dirge.

“So we crossed the Grossbein landing, and came to the foot of the garret stairs. Here I proposed lingering and playing through a whole passage, partly to rally my forces, and partly to collect the breath for the final blast which was to bring down the walls of Jericho, or in other words, to open the attic door. My whole attention was concentrated on the notes which I hoped were reaching the listening but invisible Eurydice in the Enfer above, not below, us. My ken was trying to pierce in imagination the dim region wherein the loved shade was lost, when suddenly I felt my left arm jerked; at the same moment Annette’s taper dropped out of sight. I looked round and saw the gentle creature staring at something on the stairs with eyes as large as those of young ladies in a book of beauty. Casting my looks in that direction, I was certainly startled. There sat a little bent-up figure, shrouded in a cloak and hood, with a white weazened face, and large lustrous eyes peering out from the darkness—if there ever was a goblin—like a goblin. It was the mannikin Fritz.

“‘Fritz,’ said I, in an undertone, ‘what on earth are you doing there?’

“‘Mother told me you were going to drive out the spirits, and I thought I would like to see you,’ said Fritz. ‘Are you going up?’ he asked, pointing with his little skinny hand upstairs.

“‘Yes,’ I replied, ‘would you like to go?’

“‘Yes, if you would take me upon your shoulder, as you did before’ (when I bore him upstairs on my back, as Æneas the aged Anchises).

“‘Get up,’ said I, bending my back to him; ‘I think I can mount with thee and me.’ He was up in an instant.

“Thus reinforced, and looking very much like Salvator Rosa and his monkey, plus a flageolet, whose interrupted notes I at once set flowing again, I began with my little company the last ascent.

“Just imagine it for a moment, mein lieber Fafner, and tell me, was there ever such another procession in this mortal world? Si foret in terris, rideret Democritus.

“However, many a man has looked ridiculous, and has been laughed at for his pains, when he has been on an errand of mercy and compassion. I suppose it arises from the fact that human nature in the aggregate has seen so few in the attitude of mercy in comparison with the many it has seen in the attitude of destroying, that

the one has come to be regarded as heroic and natural, and the other as unnatural and incongruous. We are but a poor species to have taken so many eons to have evolved out of the architypal monkey or what not.

"But to my narrative. As we made the ascent of the narrow stairs I was moved by many conflicting emotions. 'What,' thought I, 'if I should have all my labour for nothing? What if my supposed discovery should prove sheer imagination? What if—' But I blew all these ifs and doubts away through my pipe, determined not to be baulked by anything so insubstantial. There was my *Enfer*; in it possibly a *Eurydice* I might save; and though I were to raise a score of ghosts, or even devils, in the attempt, forward I must.

"How I played I know not. To myself it seemed as though I had got a thousand *Marsyases* within me blowing to save a thousand skins. I felt like one possessed—and possessed I was—with the determination to draw anything living out of the garret.

"At length we arrived at the door, beside which we posted ourselves in the order we had come up, I and *Annette* immediately in front of it, *Claus* and *Bear* a pace behind us, and *Zerafine* at the head of the stairs, ready for flight should anything portentious appear. Although I left not off playing, I was now enabled to survey the group around me, for resting my shoulder against the jamb of the door from which it opened, so that I might the better incline my ear to catch any sound within, my fellow pilgrims naturally came within my line of vision, and I swear the sight of them had such an effect on my risible faculties that it was as much as I could do to keep my countenance. There was *Claus* in his dressing-gown and cap, with a grave face and a lost look in his eye; *Bear* in her white cap and kerchief with a half serious half amused expression; *Zerafine* trying to be brave under adverse circumstances; and my own dear girl with a pale face, and with wonder and awe in her eyes, but no dread. As for my young *Anchises*, whose feather weight I still bore on my shoulders, I know not how he looked, but he manifested no sign of trembling.

"When I had played through the air in which *Orpheus* appeals to his lost *Eurydice* (into which I threw all the pathos I could) I waited a moment, listening intently, to see if peradventure I might catch the slightest sound within. But all was as still as death.

"I was in hopes that *Orphée aux Enfer* would be the likeliest to impress *Fifine*, should she be there to hear it, because she knew it, and had previously heard me play portions of it. But in case my instrumental performance should not prove successful, I was ready with another expedient. I had composed some fresh words for *Orpheus's* song in English, which, while they would explain everything to *Fifine*, would be altogether incomprehensible to the Professor and *Annette*. They ran something like this—

"'Fear not, *Eurydice*, for I am not that *Orpheus* thou dreadest. He is away, and cannot harm thee while we thy friends are about thee. Therefore come forth, and cheer thy sorrowing

father and mother, and the friends who love thee. Leave Pluto's dark reign, and come with us into the pleasant fields thou wast wont to cheer with thy presence and song !'

"So I sang, throwing my whole heart and soul into words and air. Fritz, too, in his piping treble joined in the air, and then Annette with her sweet vox humano. I fancied also I heard some low reverberations of the old man's bass, but I may have been mistaken. Although I still stood with my ear to the opening of the door, my whole soul was so wrapped up in the singing, that I forgot to listen for anything from within. Suddenly I thought I heard a sound ! I listened. The others noticed my action, and drew near—"

Let me here make a break in Leitner's letter in order to describe briefly what Fifine thought of this new alarum. As stated in the last chapter, she had thrown herself upon the couch, and after lying long awake, had fallen into a doze when she heard the first notes of Adolf's Offenbachian overture. At first it seemed all a dream ; but gradually, as the player drew nearer, and the notes became higher, she awoke, and was startled to find that not only was the music real, but that it was ascending the stairs. Her first impression was that it was her husband, and she nerved herself for the fray ; but having done so, she knew it was neither his instrument nor his playing. But what did it mean ? she asked herself. Nearer and nearer it drew, until she heard footsteps on the garret stairs. Her heart beat fast, and her temples burned. She had only heard one person play *Orphée aux Enfer* like that ! "Could it be he ? Could it be Adolf ?"

Now, whoever it was had reached the top of the stairs. "Could it be that it meant deliverance ! Could Fritz have betrayed her ? Or might not Leitner have found her out as the boy did ? Oh, that music would draw her in spite of herself ! Yet suppose it was but another of *his* tricks to deceive her !"

Agitated thus betwixt hope and fear, poor Fifine hung back at the inner door, anxious to see who it was, yet afraid to venture. "What should she do ?"

Then the flageolet ceased, and Orpheus's song was taken up by a rich manly voice. There was no longer any doubt ; it was Leitner's ! and those voices accompanying him were no other than Annette's and Fritz's. Then she caught the words : "There was no husband there, only her parents and friends !" No longer doubtful, Fifine staggered towards the door, but she was so overcome with emotion that she could hardly move the bolt ; presently, however, it slid back ; then the blood seemed to rush to her head, and she had to cling to the side of the door.

"Then I heard a low moan or a sigh," continued Leitner, "and quickly slipping Fritz from my back, I gave the door a push, upon which it flew open, and there, leaning against the wall, in a fainting condition, was the ghost—our beloved Fifine ! She greeted us with a faint smile, and then fell backwards in a swoon. Fortunately I caught her in my arms.

"If you had seen the looks of astonishment depicted upon the faces of my fellow-exorcisers, my dear Fafner, you would never have forgotten it. Fritz alone showed no surprise, only anxiety when he saw her deadly pale and unconscious. I have since learned that the young rogue had known of her whereabouts for some time, but was withheld from divulging his knowledge by a promise given to her. Amazement gave place to alarm when they saw the condition of the rescued one. Zerafine immediately rushed downstairs for water; Bear ran into the room for the same; but thinking the best way was to remove her at once, I took her up in my arms, and bore her downstairs, where we presently had the satisfaction of seeing her return to herself, and to hear from her own lips that my surmise as to the cause of her retreat was the right one.

"I left her with her head reclining upon Bear's breast, while Claus sat by her side gently chafing her hand. Zerafine was preparing some soothing cordial drink, blubbering over the found one as she had never done over the lost one. It seems to be the nature of women of her type to reserve all their weakness for when the trouble is over."

CHAPTER XXX.

CLAUS BUYS CAULIFLOWERS.

There is nothing to be added to Leitner's description of the exorcism, except to say that neither Claus nor Bear, to say nothing of Annette or Zerafine, had the remotest idea of his intentions; and he did not in the slightest degree exaggerate when he said they were astounded at the result of his musical invocation.

Having brought Fifine back to consciousness, they almost overwhelmed her with tenderness, without once reproaching her with unkindness, or even so much as asking why she had so suddenly left them. Having said that the musical intruder was her husband, than whom she would rather see Satan himself incarnate, she had sufficiently explained her conduct, and they required, and for that night would hear, nothing more. To have her back again, safe and sound, albeit somewhat pale and thin, was happiness enough, at least for the present. For to-night she had had excitement enough, and must simply be refreshed and go to rest; with a view to which Zerafine was presently preparing bath and bed, and clean things.

Was there ever such a transformation in a pair of human beings as that which manifested itself in Bear and Claus? When Fifine had retired to her lavatory and cubiculum, with Zerafine and Bear to assist her, the latter kept ever and anon running back to exchange a word with Claus, and to be hugged by him—for these two, as has been abundantly shown in the preceding pages, were neither more nor less than two great children. Claus absolutely could not keep still: he walked about; he shook his sides; he unwrinkled his face with silent laughter; nay, he even every now and again gave a kind of elephantine skip, a sort of tug at the earth-strings that kept him down, much as a balloon, when full of gas, tugs at the ropes that hold it down.

"I must go," he said, when Bear came in the twentieth time, "I must go and tell Bleichroder; he will be glad to hear of our joyful good fortune."

"But Bleichroder will be abed by this time," replied Bear; "it is long past midnight."

"True, I did not think of that. There has been so much night these weeks past that it seems now all day."

When Bear came in for the twenty-first time, and Claus had taken hold of her, and waltzed her round, so that she feared he was going to have her down, and bade him be quiet, he said: "I think I will just run over to Bleichroder's and see if he is in bed; and in any case I will be back directly."

He went accordingly; but before he had reached the Doctor's door, Claus had resolved that, asleep or awake, he would communicate his glad tidings to him. The disciple of Æsculapius had not long retired, but, like doctors in general, as well as dogs and journalists, he was asleep the instant he closed his eyes, and like them, at the first sound of patient, printer's devil, or evil-doer was as alert as a clock on the stroke. Claus rang like one who would bid the priest to administer the Viaticum to his mother-in-law.

"What is it?" asked the Doctor, appearing at the window in his dressing-gown.

"Come down," shouted Claus; "come down quickly; there is news—great news!"

"What news?" asked Bleichroder. "Would it not keep till morning?"

"No; come down quickly! it is already morning."

"I won't come down. Go home and go to bed."

"I go not to bed until I have told my news!"

"Then tell thy news and be hanged to thee!"

"Nay, I tell it not until I do it in thine ear. Come down quickly, or I will ring till I arouse all thy lost cases!"

"The deuce take thee for a verruchter kerl!" exclaimed the Doctor, closing the window.

His thoughts, as he descended the stairs, ran on the possibility of Claus's malady having taken on another form. Nor was he reassured when, upon opening the door, he was instantly seized by the overjoyed Professor, and swung round in a satyr-like dance.

"What new frenzy has got hold of you now?" he asked. "What is your news?"

"We have seen the ghost!" answered Claus.

"What ghost?"

"The ghost of the garret—what other?"

"The devil you have! And who goes to make up the 'we'?"

"There was Leitner, and—"

"Leitner, too, saw the ghost?" asked the Doctor, not waiting for the completion of the list.

"Yea, and more; for he had her in his arms!" answered Claus, with a grave face, but with the laughter running over in his eyes.

"Come," said Bleichroder, grasping the old man by the arm, and marching him into his study, and pushing him into an arm-chair, "no more fooling; out with your news. Have you found the girl?"

"We have."

"Where?"

"In the garret."

The Doctor looked at Claus for a moment with wide eyes, and with his hand to the cranial boss of thought; then he exclaimed, with particular emphasis—

"What a pack of fools!"

Question and answer were now, like hammer and anvil, quick and close; and when the Doctor had extracted every particular of the event of the night from Claus, he proposed that they should go over at once to the Prediger-house to see the restored Fifine.

"But she is already abed," said Claus.

"Then," said the Doctor, "we will go and congratulate Frau Bromm."

The history of the first day of Fifine's home returning must be written briefly. Everybody in the Claus Bromm household slept late—so late, indeed, that Wendel became well-nigh desperate; for when he rose Fritz told his mother of the ghost-laying, and the result of it, which put her into such a passion over her stupidity, that she looked about for something to vent her temper on. She and Fritz were then at breakfast, Grossbein himself being well enough to go to work. It was well for him that he was, otherwise his ears might have been the sufferers, because, with the majority of her sex, Wendel used her tongue as the safety-valve to her feelings.

Her first call was upon Leitner, from whom she expected to get full particulars; but his room was empty. She was about to rush off to the next floor, when Nagelmann showed his head out of the kitchen, and asked her if she had been disturbed by the Wagnerish din his lodger had kicked up during the night. He had thought to escape it, he said, but had unfortunately returned while it was in full blast. He thought from its being right over her head, it must have disturbed her.

Yes that it did, she said, and made her flesh creep too, with the daring of it; but had he not heard the news? No, not he; what news? Why, that the English lady had been found up there; Fritz had told her so, and he had seen the whole performance.

"So!" exclaimed Nagelmann; "I thought she had not gone very far; and to think that she should have sent us all over the city looking for her!"

Annoyed as she was, however, Wendel had no time to spend with the old grumbler, but at once sped to the Bromm's door, and hearing no noise within, tapped gently, but tapped in vain. Then the uneasy gossip descended still lower, and finally found some comfort in a gossip with Sabel, the Gastwirth's maid-of-all-work, who had heard the whole story from the cook, who had got it by heart from hearing her master and mistress and Annette talking it over at breakfast.

Her anger, like a surcharge of electricity, having thus found vent, Wendel went to the Professor's door quite mollified, and was able, when she heard Zerafine's voice bade her come in, to appear with a smiling face.

Meanwhile, Claus and Bear had awoke, and finding they had awoke to joy instead of to the old sorrow, they warmly congratulated each other, and praised Leitner, and commisserated Fifine's sufferings, and in short chattered over the whole affair like a couple of children.

"What a pity," said Bear, "that we cannot bid them all to supper to-night in honour of the occasion."

"I have done," said Claus; "that is, I have bidden Bleichroder and Adolf: I asked Herzl also, but he cannot come. I intended likewise to ask Nussbaum and Annette."

"But what about the supper?" asked Bear. "I have not a kreutzer left."

"There are the Twelve Apostles," said Claus.

"But is it wise to put them away to make a feast?" said Bear using a euphemism well known to needy housewives.

"I would put away twice times Twelve Apostles and the Fathers with them, to make a feast in honour of our Undine's return," said Claus.

"But there are only nine left," replied Bear; "we have already put away three."

"That will be an Apostle for each, and one over—enough and to spare," said Claus.

So the remainder of the Twelve went the way of the first three. Wendel was taken into confidence, and accompanied Zerafine to the relative's to whose care the antique cups were confided.

"There!" exclaimed Claus, when the two females had departed, "I feel immensely relieved; there is one temptation the less, or rather twelve several temptations; for I never beheld the Apostles standing there idle in their swaddling clothes, as though veritably in their second childhood, but I felt inclined to bid them pack, and as they could no longer do me any good, give place to something that could. They were mere dumb preachers of a forgotten cult; at least as good as forgotten, for its services were no longer observed, or but rarely, and in the most perfunctory manner. Sapless, bloodless, lifeless! why should their arid frames and hungry lips mock at our fireless shrine? Eheu!"

"Du bist dumm wie twanzig tausand" (thou hast the folly of twenty thousand), said Bear, leaving him to his apostolical musings.

Every few minutes since they had risen the good Bear had stolen into Fifine's room to take a peep at her, in order to see if she was all right, and on being assured that she was still sleeping and troubled by no nightmare or other night terror, stealing out again as softly. She now repeated her visit, and was surprised to see the fair girl—for she yet appeared but a girl—raised up on her elbow looking round in a dazed sort of way, as though she could hardly make out

where she was. The sight of Bear's shining countenance, however, soon recalled her to a sense of her whereabouts.

"Everybody is anxious to see you, and give you a welcome," said Bear, after her first warm greeting. "Wendel is well-nigh beside herself, and has hardly left the door an instant; Annette has been up twice, and sent three times; the Gastwirth came up before we were out of bed, and I expect he will be here again directly; while little Fritz has been sitting on the stairs watching the door this hour or more."

"And all because of so worthless a piece of goods as I," said Fifine with a sad smile.

"Hush!" cried Bear, stopping her mouth.

Annette now knocked at the door to say that her father had come to present his compliments to Fifine and Frau Bromm.

Tell him," said Bear, "that Fifine will be dressed, and come and see him in a few minutes. Very few minutes indeed were necessary to enable her to induce herself in clean fresh habiliments, and to present herself to the gaze of her humble friends, like a vision of something strange and wonderful. Annette came to her with a bound, and kissed her effusively. The Wirth doffed his cap, and bowed with a fine dignified air, as though he were saluting a princess. Indeed it seemed to them all as though they were talking and doing honour to a princess fresh from some marchen or fairy tale.

"Where is father?" asked Fifine, after expectantly waiting for some time.

"I don't know," said Bear; "he was here when I came in to you."

"I saw him going towards the Platz a few minutes ago," said Annette. "See, there he is, coming this way!" she added, pointing through the window.

"Du lieber Gott!" exclaimed Bear, looking in the direction indicated by Annette's finger, and seeing her husband struggling among a lot of market-folk with something under his arm; "what is he bringing?"

It was very soon apparent what he was bringing, for catching sight of all of them gazing at him through the window, he signalized his recognition of them by waving a couple of large cauliflowers aloft in each hand. Casting a side-long glance up at the gable of the Holy City, however, his erewhile radiant laughing face became suddenly overcast, and his cauliflowers dropped to his side again. Up there at the window was the eager face of the cast-off husband. Fortunately Bear, Fifine, and the others were at the window looking towards the Domplätz, so that they could not be seen from the Holy City. The sight of the husband at one side of the street and the wife at the other made Claus go hot all over, and he hastened into the house in a great ferment.

"Bring her from the window," he said, meeting Bear at the door.

"What have you got?" exclaimed Bear, thinking only of his wounded dignity.

"He is there," answered Claus, making an expressive gesture with the cauliflower in his right hand, forgetting that he had told Bear nothing about the husband's proximity.

"Who?" asked she.

This question brought back his presence of mind, and he answered: "The one who sold me—the cauliflowers!"

"In the name of Heaven what do you mean!" cried Bear, thinking he was becoming distracted with joy as before with grief. "What made you go and get those, and bring them through the street like that?" (pointing to the vegetables.)

"Oh" (suddenly recollecting them), "I found a few groschen in my pocket, and so I thought I would buy these; they will be a nice addition to the Apostles."

Undine now came forward, and threw her arms about the old man's neck, and kissed him fondly on both cheeks. Then, holding his face between her hands, she said, "But you have grown thin, father."

"Oh, that will soon be remedied now that you are found," he answered; adding gaily, "besides, I was getting too fat."

Fifine perceived what had brought him down, and a sympathetic dew gathered before her eyes. The one discovery led the way to others. Her eyes wandered to his hair and beard, and she found they were perceptibly greyer. Moreover, there was an expression in his eye—she could hardly decide at this first examination what it was—that was not there before. Claus too, on his part made a similar survey of his loved one, and thought he saw something different in her expression, as though behind the same youthful mask there was an older soul.

"Her month's imprisonment does not seem to have hurt her, does it?" said Claus, addressing the Gastwirth.

"On the contrary, I was just thinking I never saw her looking so beautiful," said the Wirth gallantly.

Bear, who had left the room for a minute or two, now returned and asked Claus if he had bidden the Wirth to their merry-making. The Professor replied that he had not, but that he now would do. Then, telling him that they were going to give a choice little supper in honour of Fifine's return, he said they counted upon his company; he added that Bleichroder and Leitner would be of the party; then seeing Annette putting on a little pout in the corner by the window, he said of course she would come with her father.

"Thank you," replied Annette, "I would rather stay and keep mother company."

"Oh, but you must come, Annette," cried Fifine, taking both Annette's hands in hers.

"I would rather not to-night."

"Why not?" asked the Gastwirth.

"I don't feel very well," answered the maiden.

"And will you let a little indisposition keep you away when it is got up for my sake?" asked Fifine. "Besides," she added, "Adolf will be here."

Annette blushed and looked down. Bear now added her persuasive powers to Fifine's, and between them they succeeded in winning her promise to come; but it was given with so ill a grace that both of them knew that something had put her out, but could not imagine what it was.

Claus, meanwhile, had taken the Gastwirth aside, and explained to him the new difficulty under which they were placed, arising from the close proximity of Goldwhistle's lodging, and the zealous watch he had set up therein.

Nussbaum swore a round oath that he would have him out of that in quicksticks, and made as if he would be off to do it at once. Claus, however, restrained him, and showed him that to let the fellow see that he was an annoyance to them would put themselves the more into his hands. "The only way that I can see is to wear him out. If we can keep all sight or knowledge from him of Fifine's restoration to us, he will gradually get tired of his watching, and give up and, it is to be hoped, go away. But I'm afraid, unless we can keep all knowledge of the matter from Fifine, it will gradually undermine her health."

"Then why not get her away for a time?" suggested the Wirth.

"That seems to be the only course open to us. But how to do it, is the question, when he appears never to leave the window for an instant."

"Watch or no watch, it shall be done," said Nussbaum, striking his fist on the window-ledge. "Shall we be outwitted by that white-livered, lantern-jawed make-believe of a man? By the Lord, she shall be taken away in one of my empty hogsheads before we will be beaten!"

CHAPTER XXXI.

ANNETTE HAS A HEADACHE.

The supper passed off pleasantly enough, although there was one slight drawback to the general happiness. Annette was still sulky when she made her appearance, and did not brighten up the whole of the evening. Everybody was puzzled at this sudden change in her demeanour, so different to her general character. Thanks to the general hilarity, however, her evident ill-humour did not prove the damper that it otherwise might have done. Adolf did his best to cheer her up, but finding his efforts but ill-repaid, and thinking that perhaps she was, as she pretended to be, not very well, left her pretty much to her own devices, and threw himself into the spirit of the occasion with more than his usual gaiety. Claus, too, was in great form, and told some of his best stories and his choicest jokes. Naturally, dog stories were in the order of the day, and some very good ones were told; although, it was generally agreed, none did more credit to the canine nature than the narrative of Beauty's intelligence and devotion to his mistress. The faithful animal, it should be said, was of the party, although he had been left out in the enumeration of

the guests by the giver of the feast. He sat next to his mistress, and had a platter all to himself, to which, and the comestibles placed on it, he confined his attention like a human and Christian thing.

When Undine spoke of his predatory visits to one or other larder in the house—referring to them in a delicate manner suitable to the occasion and to the company—Beauty cast down his eyes, partly in humility and partly in conscientious shamefacedness ; but, taking courage on hearing the Wirth's Gargantuan laugh, he raised his head, and made as if he would laugh too, opening wide his mouth, shedding tears, and finishing off with a low, pleasant ululation, neither bark nor howl.

"He all but talks," said Claus. "Truly does Plato call the dog the most philosophical of beasts."

"With careful selection and tuition for a few generations, I believe dogs might be made to talk," opined Bleichroder.

"Why not?" asked Nussbaum. "Did not Jacques Pourboir, who lived by the Gelbheimer Thor, teach his terrier to say 'ma' and 'mamma,' and I daresay would have taught him many more words had he lived. But some one poisoned the poor brute for a witch."

"That is the way the world discounts progress," said the Doctor, with a smile. It has always been held to be witchcraft, or worse, to use words beyond the ordinary vocabulary."

"But you surely would not have the world full of talking dogs?" observed Zerafine.

"Not until women have learned to be less talkative and more philosophical," replied the Doctor with a bow.

"If to be philosophical means to be sarcastic," replied Zerafine, "and to be less talkative means to put more bitterness into fewer words, then I pray Heaven that woman's progress may not be great in my time!"

"If all women were like thee, Zerafine," said Claus, "my prayer should be like thine, at least in regard to philosophy."

"In truth," observed the Gastwirth, "Zerafine was betimes at market when tongues were sold; she uses a well-barbed organ."

"It appears to me," said Fifine, "that all of you are throwing shafts at each other that lack nothing as regards barb."

"It all comes of your studies in 'Toxophilus,'" said Leitner.

Undine observed, with a smile, that she had learned a great deal about shooting, and could no doubt teach all of them in that branch of science—theoretically.

"But what we should desire you to teach us would be how to escape your shafts rather than how to shoot them," said the Doctor.

"Hark you!" cried Zerafine, "there is nothing he fears so much as a woman's hurts."

"It is not so much the hurt," replied Bleichroder, "as the curing of it, which is generally worse than the disease."

"See you," said Zerafine, "how his philosophy still spoils his manners. Tell us, Doctor, if you can, at what age you became a woman-hater; it would be a thing worth knowing."

"That shall be not to-night," replied Claus; "for if he was ever a hater of women, which I do not believe, he has pretermitted his nature for to-night, and is purely Aphrodisian."

"I should be less than human, if I were not less than mortal even, with such an eloquent example of faithful and, I should add, worthy devotion before me."

Leitner sang a song, written by Fafner and set to music by himself, entitled, "The Hebrew Wife."

Everybody praised the song, and extolled the singer. Then they called for the Song of Orpheus, and he sang it with fire and pathos, and again brought tears to Fifine's eyes, not so much on account of what was in it, as on account of the associations it had in her mind; to which is largely owing our preference for the old songs of our youth to the new ones of later days. Adolf then asked Annette to join him in a duet, and after some coaxing she consented, but with so ill a grace that it would have been better if she had refused.

Poor Annette! she knew well enough how badly she was behaving, but could not help it. She was hardly her own mistress to-night, and was miserable enough in consequence. The evil of it was that Adolf and Fifine, who did their bravest to throw the spell of the evening's gaiety over her, only succeeded in making matters worse, until Annette's cup was quite full, and, taking advantage of a moment when it could be done unobserved, she excused herself to Frau Bromm, and made her escape.

When it was all over, Leitner, concerned about his *fiancée's* indisposition, accompanied Nussbaum downstairs to ask after her. Annette, however, had retired. Frau Nussbaum consoled Adolf by telling him that all that ailed Annette was a bit of a headache, such as maidens are often troubled withal; and he, accepting that explanation as gospel, troubled no more about the matter.

In the morning when Wendel came to wake him, she found him seated at his desk busily writing; for having retired before his usual hour, and so got through his sleep in good time, he had arisen betimes, and set to work on a letter to Fafner, in order to acquaint him with the previous day's doings. He began where he had left off in his previous letter (as given in chap. xxix.), and as some portions of it will explain much that has been touched upon but briefly, a few paragraphs may advantageously be given. The epistle began:—

"I must now tell you, my dear Fafner, how things are going on here, and fill in some *lacunæ* which naturally occurred in my last hurried narrative. But let me, in the first place, beg of you to try to imagine the joy which the restoration of their daughter, safe and whole, has given the dear folks, Bear and Claus Bromm. Pen cannot picture it; at least not mine. I told you last night how they vied with each other which should take the most of her, or show the most tenderness to her. Despite the fact that the relationship is one of adoption only, it would be hard to find more affection in one of consanguinity than subsists between this good couple and Fifine. Last night, when we celebrated her resurrection by a feast, they

were like people in a state of ecstasy. I never saw anything so beautiful as their tender affection for one who came to them as a waif, they know not whence, and brought them deeper sorrow than they had ever known before, or are ever likely to know again. Nor does she fail to return their affection in good measure. In truth, Fifine seems to love them the more because of the pain she has been causing them ; perhaps, also, because of the pain she has been suffering herself, in tearing herself away from them.

“ Strange creatures, these human beings ! I ever come back to that thought. I cannot help coming back to it now, as I wonder how much is pure, disinterested affection, and how much affection mingled with a more selfish feeling. But I won’t try to analyze now and seek psychological explanations. I will only say this, that were I not so grounded in the system of Zadig, I should be inclined to believe in diablerie sorcery, and I don’t know what besides. This I know, that there is a witchery about this lady (Frauenzimmer) that seems to throw a spell or a glamour over all who come within her influence. And what a glorious beauty she has ! Out of this *Enfer* in which she passed so long a time, she comes more beautiful than before ; and, moreover, with something additional in respect to mind or soul —whichever you will—that I can feel, but cannot explain. And now behold four of us—Claus, Bleichroder, Herzel, and your humble servant—mad over her, and about to prepare another death for her, and another resurrection.

“ But I must explain. It has been decided that to double on Fifine’s musical husband, and put her out of his observation or molestation, we must remove her from the Prediger-House, at least for a term. Although this idea goes against the grain with Bear and Claus, they both recognise the necessity of it ; and the only question is how to effect her removal unobserved by a being who seems to be superior to human weaknesses in that he appears never to rest or sleep, hardly even to nod. Nussbaum suggests that she should be carted away in one of his big hogsheads, but there are such obvious difficulties connected with that method, that it stands self-condemned. Another method has been suggested which, in lieu of a better, we may yet have to adopt. It is Bleichroder’s idea, and perhaps you will say, as Nussbaum did when it was first mooted, that it is a method that would most naturally occur to a doctor. This, then, is the idea : to solicit Nagelmann’s aid, and carry out the self-divorced wife like another Hermione. The spying husband, meanwhile, shall not deem it is other than an ordinary empty coffin that the undertaker takes to receive its mortal freightage. We have not as yet broken the matter to Nagelmann, and do not know whether we could get his consent. He is one of those, however, whom one can always buy, and so we count upon his acquiescence and assistance, should we find no better way of deceiving the vigilance of this Argus of spouses.

“ As to the place of her temporary sojourn, it was first proposed —you may guess by whom—that she should go to Würtingen on the Neckar ; but there were several objections to that place, one, but not

the chief among them, being its distance away. Then Bleichroder proposed Schoenberg, his sister's residence, which offers the advantage of being as secluded as a nunnery.

"The subject was talked over and brought to this stage after the ladies had left us to our smoke and guzzle: it was then adjourned till morning, when it was reasonably presumed the morning light might put a different complexion on some points of the matter of our discussion. Meanwhile, the subject of our plans and speculations is allowed to remain in entire ignorance thereof; partly because it is thought a day or two may reasonably be allowed to elapse before any action is taken, in order to see if the cause of our plottings will decamp; partly, also, because it is not deemed wise to trouble the lady's peace by letting her know how the house is watched. But, even if she should not find it out, it will not be possible to keep the knowledge from her long.

"Some other time I will tell you, my dear Fafner, all about our lady Crusoe's sojourn in her Juan Fernandez, and her faithful attendant and lion's-provider, dog Beauty, whose sagacity in finding out her hiding, whose cunning in going to and fro unobserved, and whose various shifts to procure food and avoid detection, are worthy of another master-thief or a canine Hermes. The Professor has already designed an operculum on the subject, from which I hope it may one day be my pleasure to cite you some extracts. To-night the intelligent brute sat like a conscious hero at our table, ate his victuals cleanlier than many a Dutchman I have eaten with, remained silent when he could not speak to the point, and rose from the table with a cooler and clearer head than many of us, for, like his mistress, Beauty is a strict Rechabite."

(To be continued.)

Facts and Gossip.

WE want agents, for the sale of the PHRENOLOGICAL MAGAZINE, in all parts of the United States and Canada. To any one who thinks he or she can do something to make it known in their town or district, we will send copies free. Address, the publisher.

WE reprint in the present number the first part of the late James Stratton's "Contributions to the Mathematics of Phrenology," a most valuable work, which has unfortunately long been out of print. We have received many inquiries for it, and we have some thought of republishing it in book form, but as this will cost a considerable amount, we can only do so on one condition: that is, if we receive by the end of February a sufficient number of subscriptions at 1s. each to approximately cover the cost of reproduction. Subscriptions may be sent to the editor.

AN important work has been published by Mr. Francis Galton, entitled, the "Life History Album." It is designed to contain a

chart of the life of an individual, and to be a record of his biological experience. If adopted for a child at birth, it will commence by a statement of place and date of birth of its parents, grandparents, brothers, sisters, aunts and uncles, with age at death, and cause of death, where the case requires ; followed by a description of the child at birth, including weight, length, girth, colour of eyes (to be ascertained a few days after birth) and of hair, and other particulars.

A CHART is provided on which to record the stature and weight each month to the close of the fifth year of age, upon which Mr. Roberts has marked, for the purpose of comparison, the average height and weight of males and females in the general population as ascertained by the Anthropometric Committee. This is followed by a page for life history, on which are to be recorded any changes of residence and other circumstances that may tend to affect the health or mental state of the child ; and this by a page for the record of medical history, which the medical attendant may be requested to fill up. To these are added a sheet of anthropometric observations to be made at the end of the fifth year, and a page for photographs. These should be taken in exact full face and in profile, as recommended in a paper prepared for the British Association Committee in 1877.

THE same process is repeated for each quinquennium of life up to seventy-five years of age, and the work is completed by records of the wife (or husband) and children of the person observed. If kept by his parents up to the age of his leaving school, it will probably then be sufficiently interesting to him to induce him to continue the record himself ; and faithfully kept it cannot fail to be of great value. Medical men are of opinion that variations of weight are the surest guides to variations of health, and in children especially a loss of weight is often the earliest symptom of disease. The use of the album may, however, be commenced at any age, for even those who begin it late in life will find its records useful and interesting.

THE Stoke Newington murder is likely on present appearances to take its place in the long list of London "mysteries," and the inhabitants of outlying suburbs must content themselves with such consolation as their courage or their transcendentalism may afford. As for the moral which it is usual to draw on such occasions, there is a useful hint in some of the remarks which the coroner made in summing up the case to the jury. Young Tower was described as having been "stylishly dressed in the fashion usual with City clerks ;" and it is to this fact in the coroner's opinion, that his death may partly be attributed, for "the deceased was dressed so tightly in life that he was not able to make much resistance in the attack, or not so much as he might have done had he had free action of the limbs." But, according to the worthy coroner, the young man gained as much from his devotion to the fashion in one respect as he lost in another, and "from the fact that he had on narrow, thin-pointed

boots, he would have been able to get across the fence quicker than any heavier man with a broader boot."

THAT criminal acts are, in nine cases out of ten, attributable to madness is a theory which finds many advocates : and some interesting observations on this subject are to be found in extracts from the report of the medical officer of the Woking Prison for Females for the past year. After instancing the case of a woman, who was over and over again convicted and sent to prison, whose passion for destroying prison furniture and her own clothing never ceased, and who died at fifty years of age whispering a regret that her strength would not permit her to indulge as formerly in acts of violence, the medical officer goes on to say in connection with this subject of wrong-doing and the condition of the brain that he was led, during a series of examinations, to the discovery that a very notable number of convict women have had their skulls fractured. It is not uncommon to hear a woman say, "I knew I was in a temper, but I could not help it ; I was mad." This irascibility and loss of self-control are, he adds, not unfrequently associated with a damaged skull, and presumably an injured brain. So seriously are the functions of the brain disturbed after external injuries, often of a slight degree, that a very small quantity of alcoholic liquor is sufficient to produce a maddening effect on the subject of such an injury.

HERE is a field of labour for Mr. Francis Galton and his friends. Phrenology, we know, is beneath their notice ; it is an exploded error, and its professors, like the astrologer, only fit for the penitentiary or the lunatic asylum. Nevertheless it might be worth while for these *savans* to take a little trouble to examine the heads of criminals, and compare them with the heads of the morally sane. It would pay as well in regard to results as to speculate about the ichthyosaurus.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

B. B. (Banbury).—You appear to have a good strong constitution. Your mental constitution is not so well-balanced. You have more imaginative and theoretical power than perceptive faculty. You need to encourage precision, definite observation, and memory. You have wit, sense of beauty, love of form, and language enough to be able to write well. Are very cautious and anxious.

FRUIT (Burslem).—You are almost too critical. It is not easy to satisfy you, especially in regard to moral conduct. Are a law-abiding

man yourself, and expect others to be. Conscientiousness is one of your largest organs, if not absolutely the largest. You are also cautious and anxious, and take too much thought about trifles ; you can afford to be a little less particular. Are not a very talkative man, but are, like the old man's parrot, "a great one to think." Without being excessively hopeful, you are full of push and enterprise. You look upon life very soberly and earnestly, and try to do your duty, and to do it well.

W. H. B. (Macclesfield).—It is impossible to do your head justice in one of these sketches. You are an oddity, full of faculty, and with more than common character. If circumstances do not put you in the right place, you will be like a fish out of water all your life, and you will remain so, for you have hardly the energy and "go" to seek for and get yourself into your right place. But should you by chance find your right "hole," you will manifest something akin to genius. What you need to do is to try your powers, keep your nose to the grindstone, and work.

E. C. (Preston).—Weak and strong ; lacking in pride ; very sensitive to praise and blame ; lacking in determination ; not very reverential, but overflowing with sympathy. Has a poor memory, is poor in observation, and as a whole not gifted ; but neat, careful, and will make a trying, but very loving wife.

R. S. (Yarmouth).—You are a great talker, and if you could not talk you would die. There is something of the orator about you, and if you had been educated for it, would have made a good speaker. You possess an uncommon amount of practical talent ; have good observation, good memory, and order and system. You can do almost anything that requires constructive power ; have also the talent for business, and should succeed if you do not spend too much time in sociability. The trouble is that you boil over too quickly.

W. S. (Alexandria)—You have a well-developed head, and a good constitution generally, and with care and study you ought to do better than common ; you could turn your talents in almost any direction. You have uncommon perceptive power, and could have excelled in the study of science, in mechanics, in manufacture, or in art decoration. You are also well qualified for book-keeping and accountancy. You would make a good traveller, and would enjoy the variety to be gained in that sphere. You have some musical capacity, and should study music if you have the leisure. You need to check your impulses, and direct your conduct according to the dictates of reason. Have good linguistic ability.

C. D. (Okeford).—You ought to have been a doctor or a nurse, as you have a natural faculty for healing and taking care of the sick. Are sympathetic and very kind-hearted. Are not characterised for much temper ; what you have is easily expended and soon over. You have a fair development of intellect, especially of the critical and thoughtful kind. Have not so much imagination as to run away with your common-sense. Very sociable, affectionate, and devoted

to your friends and those you love. Are more conscientious than naturally devotional.

G. A. and J.A. (Glasgow).—You, sir, are noted for your practical ability, almost for your genius ; for your energy and force ; for your will and determination ; for your judgment, system, arithmetical powers, ingenuity, constructiveness, and for your ability to deal with money. If you take your work and do it without being drawn away too much by side issues, especially turning a deaf ear to those who flatter you, you ought to succeed, and become rich and influential. The lady will enjoy greatly and suffer greatly. She is almost too quick in thought, and too tender in feeling. With an education, and the chances for development, she would have made a marked woman in regard to moral capacity and intellectual strength. But she is weak through her feelings. Very kind-hearted, exceedingly conscientious, devotional, hopeful in respect to another life, and full of faith. She will sacrifice herself for her love.

W. B. B. (Hull).—You are best fitted for some intellectual avocation, as a teacher, writer, accountant, or correspondent. You could have excelled in the study of science, especially in chemistry. You have more than common ingenuity and constructive power, and considerable taste, which would adapt you to decorative work. You also have capacity for a salesman, but you need to cultivate a little more easy conversational power. Your strong points are your sympathy, your benevolence, and devotional feeling ; your weak ones are your want of energy and resolution, hope and enterprise.

BAB.—In reply to your first question—not quite. Yes, Secretiveness is rather large. Does not always tell the truth ; cannot. Is capable of a good deal of love, but it is not of a very steady kind. Is clever—very ; glib, gay, good-tempered—generally ; but is a little reckless, not cautious enough, and hardly possessed of enough conscientiousness. Very self-willed, rather capricious, and apt to be sarcastic.

J. C. (Santurce).—Your gifts are so many and varied that it is difficult to say exactly what you are best adapted for. Your perceptive, fact-gathering intellect is such that you would have excelled in almost any branch of science, but particularly in chemistry or the natural sciences. You are not so gifted in language, and hence are more fitted for a practical sphere than for the *belles lettres*. You would have made a capital doctor and surgeon. You also possess excellent qualifications for commerce, having order, system, observation, judgment, and great critical acumen. Then you have more than common ingenuity, which would fit you for manufacturing. You have also some artistic ability. You would have made a good explorer or navigator, and you would like to travel, and see and know the world. You possess great will and determination, and have a good deal of energy.

MR. FOWLER, who has been spending the last few months in the States, is now on his way back per the Guion Line Steamship *Nevada*, and will have arrived, all being well, by the time these pages are published.

THE

Phrenological Magazine.

MARCH, 1884.

“CHINESE GORDON.”



UR portrait of General Gordon is not one of the best from which to derive his phrenological peculiarities ; but on making our observations upon him, we have been aided by a portrait of him which appeared, a few weeks ago, in the *Illustrated London News*. That portrait represents him as having a long, narrow head, with superior height and breadth in the upper or moral region. It also shows great fulness in the intellectual regions, both the perceptive and the reflective regions being fully represented. There is no lack, indeed, in any of the intellectual faculties. But the selfish propensities are inferior in development. He cares little or nothing for money, except in so far as it allows him to minister to the wants of others. He is open and frank, and hates nothing so much as crookedness of policy or insincerity. The length of his head backwards indicates great fondness for children, and thoughtfulness for animals. But he is not a man who cares much for society for its own sake. If he can do good, or get good by going into it, well ; if not, he would as lief stay away. He has a large amount of Combative ness, and is not wanting in Destructiveness ; and these, with his active temperament, allow him to manifest great energy. But he does not care for fighting or for contention for their own sake. Still, the spirit to overcome is an active quality and not easy to keep at rest. But the peculiar and distinguishing qualities of his mind are moral. He has great will power, and considerable pride, which allows him to be dignified when necessary, and always manly and independent. He has large Conscientiousness, in fact the largest degree of it. He is very hopeful, and could hardly, under any circumstances, give way to despair. Then Veneration and Benevolence are both very large and active, and he should be known

not only for his kindness of heart and genuine philanthropy, but for a reverence that gives him a devoutness of thought and emotion before the humblest of things—before the lambs of the meadow and the bursting buds of the hedgerow. Not less a development is the organ of Spirituality, which gives him an altogether peculiar cast of mind. He may not be superstitious, as ordinarily understood, nor would he be guided by signs and wonders. But there is an immaterial universe, which to him is of more importance than the material one, and to which he looks for guidance and inspiration. He has large faith, and his mind is constantly open to the unseen world. The organs that give a love of beauty, a poetic turn of mind, and in some respects a sentimental disposition, are also large. He is a rare judge of men ; he reads them at a glance, and knows how to deal with them. Agreeableness is also large, allowing him to adapt himself easily to the ways and habits of those he is with, or with those with whom he has to deal. It is very rarely we find a head with such peculiar and even remarkable characteristics.

There is something peculiarly fascinating in the character, and something peculiarly romantic in the life of Major-General Gordon. This rank in the British army he retains, although a highest-class Mandarin in the Chinese Empire, and a Pasha in the service of the Porte ; and it is a satisfaction to the English people that he has not forfeited his position in our army because of the noble and perilous missions of philanthropy in which he has been engaged. Gordon's latest biographer, Mr. Hake, describes him thus : " His story is a story of a swordless conqueror, of a true disciple of the Divine Master, who laid down His life for humanity ; of a complete Christian in thought, word, and deed. . . . Never has he looked to being great ; and when, after almost miraculous achievements, greatness has been thrust upon him, he has ignored the honour implied, and declined the proffered reward. From first to last he has been content in the belief that he has done his best. This perfect disinterestedness has been consistently maintained throughout a career which has teemed with temptations and the sorest trials, which is made up of incidents the most romantic and adventures the most desperate."

Gordon is of the famous Highland clan which has furnished so many soldiers of distinction to our army, and his grandfather and father were valiant soldiers before him. He was educated at Woolwich, where he was once told by a superior that he would never make an officer. Entering the Engineers,

he was in 1854 sent to the Crimea. Here he did, as a subaltern, good service, and in the memorable "black winter" grew rapidly into an able officer. He was decorated with the Legion of Honour—a proof that he was highly appreciated. He was afterwards employed in Bessarabia and Armenia as a commissioner for determining boundaries.

In 1860 commenced his romantic career in China, from which he derived his well-known sobriquet. He took part in the capture of the Summer Palace at Pekin. The Tai-ping rebellion had broken out some years before, and the rebels proved almost more than a match for the Imperialists. Thus



it was that in 1863 the Chinese authorities applied for an English officer to command the army employed against the rebels. Gordon was appointed, and by his genius and sympathy taught the Chinese troops both to obey and love him. Thus he fashioned what was known as "the ever-victorious army." With 3,000 or 4,000 men, officered by Europeans, he went everywhere, and did everything that was necessary to put down the rebellion. The employment of steamers gave him a great physical advantage, and his decision, courage, and variety of resource secured the confidence of officers and men. His humane treatment of the captured turned enemies into

friends, and many of his prisoners entered the ranks of the ever-victorious army. And Gordon professed with unquestionable sincerity that he was actuated in all he did by a high motive; his aim was to restore order and peace, and to rescue the villagers from the hands of their oppressors. Amidst many discouragements Gordon persevered in his task, sustained by a consciousness that he was doing good service. He himself wrote, towards the close of his great undertaking, that he had hopes of crushing in six months a rebellion which might take the Government six years to put down. The impression which was produced by Gordon's achievements upon those in a position to form a judgment is apparent from the following portion of an address presented to him by a large body of European residents, when he was on the point of leaving China.

"Your career during the last two years of your residence in the East has been, so far as we know, without a parallel in the history of the intercourse of foreign nations with China; and, without entering at all upon the political bearings of the great question with which your name must ever remain so intimately connected, we feel that we should be alike wanting towards you and towards ourselves were we to pass by this opportunity without expressing our appreciation and admiration of the line of conduct which you personally have pursued.

"In a position of unequalled difficulty, and surrounded by complications of every possible nature, you have succeeded in offering to the eyes of the Chinese nation, no less by your loyal and, throughout, disinterested line of action, than by your conspicuous gallantry and talent for organization and command, the example of a foreign officer serving the Government of this country with honourable fidelity and undeviating self-respect.

"It is by such examples that we may trust to see many of the prejudices which warp the Chinese mind, as regards foreigners, removed, and from such experience that we may look forward with hope to the day when, not only in the art of war, but in the more peaceful occupations of commerce and civilization, the Chinese Government may see fit to level the barriers hitherto existing, and to identify itself more and more with that progressive course of action which, though springing from the West, must prove ultimately of equal benefit to the countries of the East."

Gordon returned to England, but steadily refused all invitations to enter society, and led for six years a life of seclusion and humble usefulness.

"In 1865 he received the appointment of Commanding

Royal Engineer at Gravesend, where he remained till 1871. . . . To the world his life there was a life of self-suppression and self-denial ; to himself it was one of happiness and pure peace. He lived wholly for others. His house was school, and hospital, and almshouse in turn—was more like the abode of a missionary than of a Colonel of Engineers. The troubles of all interested him alike. The poor, the sick, the unfortunate were ever welcome, and never did suppliant knock vainly at his door. He always took a great delight in children, but especially boys employed on the river or the sea. Many he rescued from the gutter, cleansed them and clothed them, and kept them for weeks in his home. For their benefit he established evening classes, over which he himself presided, reading to and teaching the lads with as much ardour as if he were leading them to victory. He called them his ‘Kings,’ and for many of them he got berths on board ship. One day a friend asked him why there were so many pins stuck into the map of the world over his mantlepiece ; he was told that they marked and followed the course of the boys on their voyages, that they were moved from point to point as his youngsters advanced, and that he prayed for them as they went, day by day. The light in which he was held by those lads was shown by inscriptions in chalk on the fences. A favourite legend was, ‘God bless the Kernel !’ . . . The workhouse and the infirmary were his constant haunts. Many of the dying sent for him in preference to the clergy ; and ever ready was he to visit them, no matter in what weather or at what distance. But he would never take the chair at a religious meeting, or be in any way prominent. He was always willing to conduct services for the poor and address a sweepers’ tea-meeting.”

Gordon’s modesty was the occasion of his being overlooked, if not forgotten, but those who had served under him had the highest conception of his character and abilities. “ It is really surprising,” says a writer who knew him well, “ how scanty a knowledge English people have of the wonderful feats performed not many years since by an officer whose name has lately been rather prominently mentioned—Colonel, or Chinese Gordon. Having served under him during the most eventful period of his command of the ‘ever-victorious army’—an epithet, you may be sure, not given by himself—I might fill many of your columns with traits of General Gordon’s amazing activity and wonderful foresight, his indomitable energy and quiet unassuming modesty, his perseverance, kindness, cool courage, and even heroism. My individual opinion may not be worth much, but is it not notorious that every man who

has served under or with General Gordon is an enthusiastic believer in his military genius and capacity? What is, perhaps, most striking in Gordon's career in China is the entire devotion with which the native soldiery served him, and the implicit faith they had in the result of operations in which he was personally present. In their eyes General Gordon was literally a magician, to whom all things were possible. They believed him to bear a charmed life, and a short stick or rattan cane which he invariably carried about, and with which he always pointed in directing the fire of artillery or other operations, was firmly looked on as a wand or talisman. . . .

. . . These notions, especially the men's idea that their General had a charmed existence, were substantially aided by Gordon's constant habit, when the troops were under fire, of appearing suddenly, usually unattended, and calmly standing in the very hottest part of the fire."

The following instance is given of Gordon's cool intrepidity and good fortune:

"One evening Gordon was seated alone on the parapet of a bridge in Patachow smoking a cigar, when two shots in succession struck the stone on which he sat. These shots, which were purely accidental, had come from his own camp, it not being known that he was there. On the second striking the seat he thought it time to descend, and rowed across the creek to make inquiries as to what was going on.

"He had not been long on the river when that part of the bridge on which he had been seated gave way and fell into the water, nearly smashing his boat. This narrow escape from falling through with the ruins, to which he does not himself allude, is one of those incidents which added not a little to the reputation he had acquired of having a charmed life."

After serving upon the European Commission on the Danube, Gordon was in 1874 appointed by the Khedive of Egypt, Ismail, to the post of Governor of the Tribes of Upper Egypt, the district now so familiar to the readers of the daily prints as the Soudan. He declined the offer of £10,000 a-year, and accepted only £2,000. The traffic in slaves was then, as it is now, the curse of Central Africa, and it was favoured and promoted by those in high places. Gordon's genius and daring gained him the admiration and confidence of those who served under him. He cared nothing for wealth, nothing for honour, nothing for life. The simplicity of the man is apparent from the following passage from Mr. Hake's memoir.

"At last he arrived at Khartoum, and the ceremony of installation took place on the 5th of May. The firman and

an address were read by the Cadi, and a royal salute was fired. Gordon was expected to make a speech, but all he said was, ‘With the help of God I will hold the balance level.’ This delighted the people more than if he had talked for an hour. In an account of his installation by an eye-witness, it is stated that ‘the Pasha afterwards directed gratuities to be distributed among the deserving poor,’ and that in three days he gave away upwards of a thousand pounds of his own money.

“To his disgust he had to live in a palace as large as Marlborough House. Some 200 servants and orderlies were in attendance; they added to his discomfort by obliging him to live according to the niceties of an inflexible code of etiquette. He was sternly forbidden to rise to receive a guest, or to offer a chair; if he rose every one else did the same; he was ‘guarded like an ingot of gold.’ This formality was detestable to him; but he made a great deal of fun of it, and more than once, while certain solemnities were proceeding, he would delight the great chiefs, his visitors, by remarking in English (of which they knew nothing), ‘Now, old bird, it is time for you to go.’”

The following incident is a capital illustration of Gordon’s coolness and trepidity.

When Gordon Pasha was taken prisoner by the Abyssinians he completely check-mated King John. The king received his prisoner sitting on his throne, or whatever piece of furniture did duty for that exalted seat, a chair being placed for the prisoner considerably lower than the seat on which the king sat. The first thing the Pasha did was to seize this chair, place it alongside that of his Majesty, and sit down on it; the next to inform him that he met him as an equal and would only treat him as such. This somewhat disconcerted his sable Majesty, but on recovering himself he said, “Do you know, Gordon Pasha, that I could kill you on the spot if I liked?” “I am perfectly well aware of it, your Majesty,” said the Pasha. “Do so at once, if it is your royal pleasure; I am ready.” This disconcerted the king still more, and he exclaimed, “What! ready to be killed!” “Certainly,” replied the Pasha; “I am always ready to die; and so far from fearing your putting me to death, you would confer a favour on me by so doing, for you would be doing for me that which I am precluded by my religious scruples from doing for myself—you would relieve me from all the troubles and misfortunes which the future may have in store for me.” This completely staggered King John, who gasped out in despair, “Then my power has no terrors for you?” “None whatever,”

was the Pasha's laconic reply. His Majesty immediately collapsed.

Gordon's own account of the result of his mission to the Soudan is this: "I have cut off the slave-traders in their strongholds, and I have taught the people to love me."

Such is the man who is just now attracting so large a share of general attention and admiration—which he himself would fain avoid. It is but a few days ago that Gordon had consented to go out to the West coast of Africa, under the auspices of the King of the Belgians, to ascend the Congo River, and thus to undertake a great mission of humanity, in suppressing the slave trade at its very sources, and in ameliorating the lot of the native tribes in the interior of "the dark continent." But the lamentable and threatening state of affairs in the Soudan suggested to the Government the wisdom of securing the services of "Chinese Gordon" for dealing with the all but invincible difficulties of the situation. He accepted the mission, and has gone to the Soudan, accompanied by the good wishes of all the friends of civilization and humanity. That he will act in a manner worthy of his reputation no one can doubt.

CONTRIBUTIONS TO THE MATHEMATICS OF PHRENOLOGY.

BY JAMES STRATTON.

ARTICLE II.

AVERAGE SIZE.

We come now to inquire what is the average size, what the average range or variation of sizes, and what are the extremes of range which have been found to obtain among the nations and tribes regarding whom we possess any information on the point in hand. In other words, to determine mathematically, as nearly as may be, what is an average size of head—what is a large, a small head, &c.

Here it may be premised, that though the information possessed is neither so extensive nor so precise as could be desired, yet we hope to adduce such a chain of evidence as will warrant us in sketching the outline of a scale which will be useful, by rendering some important service, until we are prepared to substitute a better.

The first question in this department of our inquiry is that of *Age*. Should our inquiries be limited to the adult head, or should they embrace all ages or stages of existence of the human being, from birth upwards? It seems to be generally

admitted, that from ten years old to sixty is the period during which phrenological observations may be made with greatest certainty; and such may possibly be the truth, especially as regards the latter period. But there are many questions yet to be settled, which require us to extend our observations to a period anterior to ten years of age—even to birth, I presume.

For example, the most extraordinary difference of opinion prevails at the present moment regarding the period at which the human head attains its full, fixed, or adult size, and this difference of opinion seems to be increasing rather than diminishing. To settle this question alone, if it is to be settled by phrenologists—and I know none either so competent or so strongly called upon by the interests of science to settle the point—would carry our inquiries back to three years of age, as we shall see presently.

Professor Tiedemann says, in the *Philosophical Transactions*, for 1836, p. 504, "The brain arrives, on an average, to its full size towards the seventh or eighth year. Soemmering says, erroneously, that the brain does not increase after the third year. The brothers Wenzel have shown that the brain arrives at its full growth about the seventh year. This is confirmed by Hamilton's researches. Gall and Spurzheim, on the other hand, are of opinion that the brain continues to grow till the fourteenth year." Gall and Spurzheim will be found to be nearest the truth; and, in so far as they err, they will be found to have stated the age below rather than above the truth. I venture to think my conjectures well founded from such considerations as the following. The gradation of age and size, exemplified in the family quoted below, is what I have seen so often, that, in a similar family, I would expect to find a similar gradation as a matter of course:—

M.	aged	6 months	—size of head	72	cubic inches.
E.	.....	3 years	.....	98	.....
P.	.....	5	.....	104	.....
Jn.	.....	8	.....	114	.....
G.	.....	10	.....	121	.....
L.	.....	12	.....	124	.....
Mt.	.....	20	.....	128	.....
Js.	.....	18	.....	133	.....
Wm.	.....	15	.....	147	.....
A.	.....	22	.....	142	.....

Here, it will be observed, we find a gradation of relative age and size, which may be termed regular with irregularities. Wm., aged 15, had a larger head than any other member of the family at birth, and he still retains the peculiarity. Mt., the daughter, 20, has rather less than Js., the son, at 18, a

fact quite in harmony with the well known relative proportions of the male and female head. The other members of the family exhibit a regular gradation of age and size. To affirm that the head of any one of the family, even A., 22, has attained its full size, would be an assumption altogether unwarranted by any extensive class of facts that I know.

Persons engaged in the hat business have the most extensive means of knowing the size of heads. All such parties, that I have conversed with on the subject, are uniform in their testimony that the head rarely attains its full size before eighteen years of age, and frequently continues to increase till twenty-four, or even later.

Dr. J. B. Mège, of Paris, says, "The human brain requires from 45 to 50 years to attain its highest degree of development and activity. The head of Cuvier is an example of this law." Zoist, No. 10, p. 147.

If the experimental researches of Mr. Deville of London be admitted as evidence good for anything, they confirm that of Dr. Mege.

But, supposing, for a moment, the question of adult size to be settled, there are others equally important which remain to be so—questions for which urgent reasons exist that they also should be settled as early and accurately as possible. This becomes obvious on reflecting that it is to the young of our race that phrenology can render its most valuable aids. It is in behalf of the young (often far below ten years of age) that the phrenologist will most frequently be required to give an advice which may exercise very important influences on the life and future comfort of many of his fellows creatures. And that advice is sometimes requested under circumstances of such a nature, that a refusal to comply with the request would be attended with very pernicious consequences to the youthful subject. I could quote more than one such case but think it unnecessary.

Now, though it may be quite true that the more minute characteristics of individual development are not so distinctly to be seen before, as after, ten years of age, yet I offer it as a question, which my present evidence would lead me to answer in the affirmative, that the leading features of character are traceable at five years of age, and even sooner, in many cases. But, be that as it may, in order to prepare the phrenologist to render the greatest possible amount of service to the young, it is necessary that the following and, it may be, other questions, be fully answered by an ample amount of evidence. What is the average size of the head at birth? What is the range of sizes at the same period? What is the rate, or

rates, of increase at the different periods of infancy and youth? What are the modifications of development which take place between infancy and maturity? What are the effects produced on development and character by training and circumstances?

Such are some of the reasons why I regard it as essential that our inquiries should embrace all ages and sizes, from birth to fifty years at least.

Before we can render two of the sources of evidences which we are about to examine available for our purpose, it is necessary to determine how the external measure of the head may be deduced from the internal capacity of the cranium. To effect this I ascertained the ordinary thickness of the skull at the points of measurement, by examining a number of crania and fragments. I also ascertained the ordinary thickness of the covering integuments at the same points, and found that the calculation may be effected as follows:

To find the external from given internal dimensions of the cranium—

Add .3 to the average height ;
 " .23 to the average breadth ;
 " .3 to the average length.

To infer the corresponding size of head from the external dimensions of the cranium—

Add .3 to the average height ;
 " .33 to the average breadth ;
 " .3 to the average length.

We are now prepared to avail ourselves of the valuable evidence furnished to this department by Dr. S. G. Morton, in his work "Crania Americana." From that work, the columns of "internal capacity," (Int.) in the following table are quoted from the "Edinburgh Phrenological Journal," vol. 13, p. 357. The columns of external measure (Ext.) and size of the head (H) are found in the manner just specified.

No. of S.	AVERAGE.			LARGEST.			SMALLEST.			
	Int.	Ext.	H.	Int.	Ext.	H.	Int.	Ext.	H.	
Caucasian ...	52	87	105	130	109	131	159	75	92	114
Mongolian ...	10	83	101	125	93	112	138	69	85	106
Malay	18	81	99	123	89	107	132	64	78	98
Amer. Aborig.	147	80	98	122	100	119	146	60	74	93
Ethiopian ...	29	78	96	119	94	113	139	65	79	99

The Caucasian variety is represented above by 52 specimens, all from the lowest classes of society, except one. This is an acknowledged defect.

In the "American Phrenological Journal," Vol. I. p. 287, we find a table of eight measurements of each of the heads of 52 of the "leading men" in America. From these measurements I have endeavoured to estimate the size of the respective heads, and believe the following is very near the truth:

Average of the whole 165. C. inches. Largest 170, smallest 145. C. inches.

The next inquirer in this department we come to notice is Dr. Frederick Tiedemann, Professor of Anatomy and Physiology in the University of Heidelberg. He executed an extensive series of experimental researches with a view to ascertain the size of the Negro brain in comparison with the other races of man, and thence to infer the relative intellectual capacity of the African race.

That eminent Professor visited the principal European collections of crania. Among others, those of the University, the Phrenological Society, and Dr. Knox, Edinburgh; Surgical College, Dublin; Christ College, Oxford; St. Thomas', Guy's, St. Bartholomew's Hospitals, Hunterian and South's Museums, London; Museum of Frankfort, of Soemmerring, of Camper, &c. He measured all the specimens which he was fully satisfied of the authenticity of, and published the results of his labours in the "Philosophical Transactions" of the Royal Society, London, for 1836, p. 497-528.

The article gives very valuable evidence on the point in hand, but there are some reasons for doubting the entire accuracy of the capacities which may be inferred from the tables given.

The Professor measured the internal capacity of each skull by filling it with "dry millet seed." He recorded the weight in pounds, ounces, and grains Troy, in a series of tables given in his paper. Here a question occurs, Does "dry millet seed" weigh exactly the same, measure for measure, at all times, in all countries? If so, it is an exception to a very general rule. We shall grant that it is so; but a still more serious difficulty remains, Does a given weight of millet seed always occupy the same extent of space, whatever care may be taken in shaking, packing, or adjusting it? I must answer in the negative, and admit that here is a source of uncertainty, it may be of error, which it is much to be wished had not existed. Any one may verify this by taking a straight, smooth glass tube, ten inches long, one inch or more in diameter, and closed at one end. Fill the tube carefully, but without shaking, of dry millet seed, quite full. It will then be found easy to shake the seed into less room, so far that one inch of the tube is empty. In other words, it is quite easy to

err 10, 15, or 20 inches in measuring skulls by such means. The same objection, though not to the same extent, applies to the use of lead shot for such purposes. I have noticed this objection at some length in order to put students on their guard, and to remind them that a liquid, such as mercury or water, is the most suitable subject wherewith to measure cranial capacity.

Let us take it for granted that each cranium was shaken, or packed, with a moderate and nearly uniform degree of care, and that dry millet seed, under such circumstances, weighs .45 oz. Troy, per cubic inch, which I believe is very near the truth, but would respectfully suggest to such phrenologists as can identify any of the specimens measured by the Professor, to repeat the measurements in some way which cannot be mistaken, and to publish the results, in order to secure the evidence of the tables on a less doubtful basis. From the data just stated, I have calculated the internal capacities of the crania, and from this the external and the corresponding size of head, in the manner previously stated, and thus obtain the following table:

	No. of S.	AVERAGE.			LARGEST.			SMALLEST.		
		Int.	Ext.	H.	Int.	Ext.	H.	Int.	Ext.	H.
European	77	92	111	137	109	131	159	73	90	112
Mongolian ...	20	86	103	127	99	118	145	55	69	88
Asiatic	24	81	96	119	92	111	137	62	76	95
Malay	38	86	103	127	109	131	159	42	55	72
Amer. Aborig.	27	87	105	130	101	120	147	58	72	91
Ethiopian.....	38	84	102	126	97	116	141	70	86	107

Our next source of evidence is the measurements in use by those engaged in the hat business. This, at the first glance, may appear to some to be of little value for our present purpose, inasmuch as we only obtain the measurement of the head in one line. Hat measure, or even a series of two, three, or more measures taken in a similar way, is unquestionably altogether worthless, when applied to measure the absolute size of *individual* heads. But when used so extensively as to ensure an average shape of head for each size in the series the case is entirely altered. Now, hat measure being so extensively applied as to secure, beyond all doubt, an average shape to each size, it becomes legitimate for our purpose, providing we know the average dimensions of head corresponding to each size of hat. This I have endeavoured

to ascertain by an extensive series of comparisons, and submit the following table as an approximation to the truth.

Hat.	C. inches, Head.	Hat.	C. inches, Head.
8	200 to 220	6 $\frac{7}{8}$	120 to 135
7 $\frac{7}{8}$	190 , 210	6 $\frac{3}{4}$	110 , 120
7 $\frac{3}{4}$	175 , 195	6 $\frac{5}{8}$	100 , 110
7 $\frac{1}{2}$	160 , 180	6 $\frac{1}{2}$	90 , 100
7 $\frac{1}{4}$	150 , 165	6 $\frac{3}{8}$ to 6 ...	80 , 95
7 $\frac{1}{8}$	140 , 155	6 , , 5 ...	50 , 80
7	130 , 145		

It would not be difficult to give a much more definite value to each size than I have ventured to state. It would be somewhat laborious; but it may be made so extensively useful in determining both local and general peculiarities of size, that, to facilitate future investigations, I would respectfully suggest that phrenologists should combine their observations in order to determine the value of each size as soon and as nearly as possible.

It ought to be noticed that there is a slight difference, to the extent of half a size or rather more, in the standards of different manufacturers. I have based my table on the standard in most general use among the English firms.

Of the statements given me by a number of most respectable parties, whose experience in the hat business extends from ten to fifty years, I present the following brief summary:

The average size of the Scotch adult male heads is between 7 and 7 $\frac{1}{8}$ (130 to 155), rather nearer the latter than the former, say 147 C. inches. The average range of sizes is from 6 $\frac{7}{8}$ to 7 $\frac{1}{4}$ (120 to 165). 6 $\frac{3}{4}$ (110 to 120) is rather rare, and sizes below that very rare. That 7 $\frac{3}{8}$ and 7 $\frac{1}{2}$ (160 to 180) are not unusual,—7 $\frac{5}{8}$ is rare, and above that very rare. The adult female head averages about 125 inches, and the range of sizes is from 10 to 20 inches below the male head.

It is a general opinion that the size of the head varies to the extent of one size up or down in different localities. The Aberdonians, for example, get credit for being rather above the average of the Scotch. The fishing communities along the coast, and the native Highlanders, are considered rather below the average. The examination of general features is what I here confine myself to, leaving local peculiarities till much more extensive evidence be accumulated. I shall only remark in passing that the evidence I possess is not conclusive regarding the superior size of the Aberdonian heads; as to the fishing communities which I have had an opportunity of seeing, the prevailing opinion is borne out by some villages and not so by others.

In an excellent paper by a London hatter, published in the "Edinburgh Phrenological Journal," vol. 4, we are furnished with an extensive chain of evidence on the size of hats required in various parts of England. I have heard the statements contained in that paper confirmed in many particulars (not in all) by gentlemen extensively connected with the business; and confidently offer a summary of the general details. The average size of the English adult male head is 7 (130 to 145), and the average range from $6\frac{3}{8}$ to $7\frac{5}{8}$ (?) (80 to 185). The female head ranges from $6\frac{3}{8}$ to $7\frac{1}{8}$ (80 to 155). In the lower ranks of life the majority are below 7. In Spital-fields, Coventry, Essex, Hertford, Suffolk, and Norfolk, $6\frac{3}{8}$, $6\frac{1}{2}$, and $6\frac{5}{8}$ (80 to 110) are prevailing sizes of male heads. Devonshire and Herefordshire average above London. Lancashire, Yorkshire, Cumberland, and Northumberland have more large heads, in proportion, than in any other part of the country.

The evidence based on hatter's measure may be summed up thus :

	Average.	Average range.
Scotch, adult Male	147 cubic inches	120 to 165
,, Female	130	100 ... 145
English, adult Male	137	80 ... 170(?)
,, Female	120	80 ... 155

The evidence already quoted in this department is derived from sources so completely independent of each other, and, though varied and extensive, is nevertheless so harmonious the different parts with each other, and with phrenological observation in general (exemplified in the tables, pages 9 and 10), regarding the different races of mankind, that it appears to me to furnish an approximation to, *first* the *average size* of head ; and *second*, the *average range* of sizes of the different races, which is not likely to be materially altered until phrenological observations have been extensively accumulated among each race on its native soil.

SMALLEST SIZES.

We turn now to consider the extremes of range—those points on the scale of size which nature rarely attains and never passes, either upwards or downwards, in any individual of healthy normal structure, and competent mental capacity to fulfil the imperative duties of life. This is the most difficult part, especially to discover the minimum, or smallest size, the point below which none but idiots can be found.

After ten years' practice in observation, during which I have measured more than 3000 heads, and formed an eye

estimate of more than ten times that number, measuring every head in any way remarkable to which I could obtain access, I have to report the following as unique in my experience in the respective classes to which they belong:

—L—, Esq., a gentleman of talents and learning, size of head, 111 cubic inches. C. A., aged 60, a village politician, orator, wit, poet, and tinker, a little above 100. Robert Duncan, aged 29, found employed in a large manufactory, 92. Robert Gibson, pauper, found in the Public Soup Kitchen, Aberdeen, one day—18th May, 1845—when all the youths found begging were conveyed there, during a benevolent effort to suppress juvenile mendicity, age about 7, 82 cubic inches. Girl belonging to a fisher's family, age between 6 and 7, size of head 72 cubic inches.

From the hatter's evidence, previously quoted, we learn that 80 cubic inches is a common size of adult male heads in Spitalfields and some other parts. We are warranted from thence to infer that adult female heads are to be found somewhat less—say 70 inches—and boys and girls still less, at or below 60 inches.

Dr. Voisin of the Hospital of Incurables, Paris, as quoted by Mr. Coombe, in his "System of Phrenology," 4th edit., p. 40, states that "heads, 13 inches round and 9 over, are idiots of the lowest class; heads, 17 inches round and 12 over, give glimpses of feeling and random intellectual perceptions, but without power of attention or fixidity of ideas; and heads of 18 inches round give intellectual manifestations, regular, but deficient in intensity." Now, heads of 13 inches round and 9 over will generally range between 40 and 50 inches, cubic measure; those of 17 round and 12 over will range about 70; and those of 18 inches round would, if tolerable well balanced, range 80 to 85 cubic inches. I must take leave to doubt the inferences which the latter part of the quotation would, without explanation, lead to. The pauper boy that I found in the Public Soup Kitchen had, as I have stated, a head of only 82 cubic inches, but it was well balanced, the constitutional temperament highly nervous, and the boy is quite as intelligent as could be expected at his age, in his circumstances.

I think it highly probable that the heads of 17 and 18 inches round, noticed by Dr. Voisin, were defective in regard to either balance of parts, health, normal structure, or temperament: the latter I think most likely. And to show cause for my conjecture may here remark that, from the study of, not individuals only, but whole communities, living distinct from each other, but in precisely similar circumstances, I am

disposed to believe that a person in whom the nervous temperament predominates, with a head of 120 inches, is equal, or nearly so, in mental scope and energy, to a person with a head of 140 inches, in whom the lymphatic temperament predominates.

In a quotation from a Memoir by Dr. James Y. Simpson, Professor of Midwifery in the University of Edinburgh, given in the "Phrenological Journal," for July, 1845, p. 245, we find the average measurements of the heads of 60 male and 60 female children at birth given thus.

Males	13·983 in. round, and 7·429 in. over from ear to ear.
Females	13·617 7·221

This implies an average cubic measure of about 40 inches. And as some are more and some less, the probable range of the infant head at birth may be from 30 inches, or less, to 50 inches, or more, but evidence to fix the limits is wanting.

DUALITY IN NATURE.

NO RESULT WITHOUT TWO FACTORS.

"Empedocles introduced the notion of love and hate among the atoms to account for their combination and separation."—*Tyndall's Address at Belfast, Sept. 1874.*

Whether or not Empedocles was exact in using the words love and hate to account for the combination and separation of atoms, his idea is borne out by the discoveries of science under other designations. Do we not speak of the positive and negative poles of an electric battery or of a magnet, of chemical affinities, of attraction and repulsion? Can any movement in nature, any act whatever, be brought about by *one* factor. Are not two always and absolutely necessary?

Let us take, for example, an abstraction. Suppose a unit, a point in fact: what could it do or bring about? Actively, nothing, being in a passive state; for as one alone it could have no relation to any other state or thing; it would be simply a passive point or state; action by it alone there could be none, for action pre-supposes movement or time. But time can only occur by one becoming two either in place or person, and so on: you will say, perhaps, by repeating itself; yet not so, since we cannot conceive of time going back; it cannot, it must of necessity go forward: yet there has always been a previous time, and one again before that.

Suppose, then, that there was originally only one thing, one element, one factor. Could it have moved? Only under subjection to time and space. Then, again, if it did not move

it could not have life. Moreover, how could it create, without a second element, a second factor on which to work? It may be answered that the second element or factor was created out of the first: yet if you concede this, you at once allow that the first factor was not a unit, but made up of two or more elements.

In reality, we all do virtually acknowledge the dual power in nature in our actions; although our prejudices lead us to speak usually of one as the supreme force.

Even in scientific matters there has been, and yet exists, a prejudice in favour of one cause. What is growth but the result of contact of two elements at least? There must be the seed and the earth, or water or air. It matters not that the seed is the result of parents, since without the action of another parent no seed would be developed. Even the same element will only act and give out results by the positive and negative poles in contact, such as electricity: you cannot form the current without bringing them together; the result, then, the spark.

Acids and alkalies combine and form different substances, a third different from either. Fire only acts with the thing it consumes: no fuel, no fire; for fire itself is always the result of two, a dual product from flint and steel, from a match rubbed against something else, by percussion, and other means; but in all cases by the contact or agency of two factors.

Gravitation itself pre-supposes two factors, one the gravitating, the other the gravitated to. At present gravitation is still made to account for all the movements of the universe, more especially of the celestial bodies. Yet, is it possible that they could move on and keep their places together simply by gravitation? Surely they would sooner or later clash together and the whole system would collapse; there would be a mighty smash. Nevertheless, no actual theory of a repellent (pushing-out) force in counter-action to that of gravitation now exists, although certain scientists appear to perceive the necessity for such a balancing power. On the other hand, we do not seem to be perfectly clear as to the extent or domain, so to say, of the force of gravitation itself. Does heat gravitate? does light? do gaseous matters? But they are perhaps called imponderables, in other words, non-gravitating. If, however, they do not gravitate, they must repel (push outwards) for they are active forces. But what causes them to repel? The earth gravitates to the sun, but by what is it repelled? If the sun attracts it by its superior power, what is the force which repels the earth, or impels it onwards? A

comet, a gaseous body, passes across the earth's path, or the earth through its. Does the comet gravitate on to the earth, or the contrary? But the comet moves on, does no apparent harm; is it, therefore, in this instance governed by gravitation or by repulsion?—by the pull or the push?

It is clear that if the earth did attract the comet, there must have been a yet stronger repellent force that drove it off. Is the repellent force in that case from the earth, or is it inherent in the comet? or in what? In any case the pushing force carried the day, and the gravitating force was clearly the weaker.

Gravitation itself may be considered as a certain condition of things under certain relations. For instance, solid bodies have a tendency to fall together: fluids, especially the gaseous matters, light, heat, &c., to repel or expand. The same body may gravitate in one state, and be repellent in another. Water, as water, will fall to the ground; still more so, as ice. Boil it, and the steam will repel, go upwards, not gravitate. Gunpowder poured out of a barrel will fall to the ground, will gravitate. Put a spark of fire to it, and it will repel, go upwards, with terrific force. Yet the steam may be condensed again into water, the water frozen into ice, and, as such, again simply gravitates. Clearly the component parts have not, in this case, been interfered with, or only temporarily so. In the case of the gunpowder, the repellent force completely overcame the gravitating one, the condition or relation of the particles being quite changed.

Thus the same substance, under different forms, may gravitate in one instance, and repel in the other. In truth, the theory of repellent forces is at least as difficult to define and understand as was the balancing of the celestial bodies to our ancestors, for they are so subtle as to evade scrutiny. We have a piece of iron-stone found on a barren hill-side; this iron-stone is magnetic; put the needle of a compass to it, and the needle will be attracted; reverse the stone, and the needle will be repelled. Here you have in a piece of stone the attractive and the repelling force—in fact, in a dry, heavy, and very solid body, you may find the attractive and repellent forces equally balanced. Yet this stone is apparently not a fluid body, nor could it be supposed at first sight to have any other than the usual gravitating and adhesive force. Now, as a rule, we are accustomed to understand electricity, magnetism, and such like forces, as being evolved only by friction, by an electrical machine, or by contact of fluids and metals, as in the galvanic battery: when, therefore, we find a rough piece of stone possessing such subtle powers as actually to be able to distinguish that which it likes or desires, so to say, from that

which it dislikes, or does not want, and therefore repels—when we see this, and when we see the affinities and repulsions of the various natural products made use of in chemistry, the action of the very air upon the rocks—in fact when we see all nature acting as one great galvanic battery or chemical workshop—can we any longer shut our eyes and doubt that Empedocles' view of the matter was the right one? that attraction and repulsion are inherent in the very atoms, and that the aggregating and separating tendencies of bodies act according to the conditions in which they are placed. We lay stress upon this view of things because it seems to us that scientists by not as yet recognizing officially the dual system keep on working in the dark and at a disadvantage.

For instance, it is, or was until lately, supposed that cold was not a positive condition of bodies, but only an absence of heat—in other words, a negation. We do not by this pretend to say what heat may be, whether inherent in bodies as latent heat, or whether it be not rather a product resulting from two factors. But why should cold be the negation of heat? Why, rather, should not heat be but a special intrusion of a subtle element, or of the contact of bodies into the cold? There is no proof of either hypothesis. Cold nips, cold burns, cold disintegrates bodies; rocks are blasted by it; fluids are made solids; water, mercury, and oil are crystallized by it; the very conditions of the air are altered, and yet this is only the negation of heat! Does this seem reasonable? Does not the very fact that heat is so subtle a fluid as rapidly to pass off and away, rather prove that to it more especially should be given the attribute of not being inherent in matter, but rather the result of the operation of other causes, whether of the sun, of friction, of chemical affinities, of the action of acids on metals, or on the metallic particles of the atmosphere? If carbon (coal) be the result of the sun's rays during long ages, and if it be, as it is, our fuel, it nevertheless cannot burn and be consumed without the action of oxygen; the one cannot act without the other, yet the action of the two will produce the result—heat. In other words, heat may be said to be rather the result of causes operating on the earth, as in the above-mentioned cases, and not be due simply to the action of the sun's rays. You will find equal difficulty in making heat alone, as you do gravitation alone, a sole power.

One thing is pretty evident, that in nature, as a rule, things or bodies—I use the word in a general sense—seek what they want, and avoid what they themselves have: thus the positive poles will repel the positive, but will seek the negative, and *vice versa*.

Growth, which is a sort of creation or building-up, may probably take place by the gradual seeking or coming together of positive and negative particles. This is construction. On the other hand, when the same poles of bodies approximate, they will repel, for they do not need each other ; on the contrary, they are in competition—hence opposition, fighting, destruction. In fact, when two of a kind seek the same requirement, there will always be discordance.

A. W. IVENS.

FIFINE AND HER FRIENDS ;

AN ATTIC CRUSOE.

By CAVE NORTH.

CHAPTER XXXII.

FIFINE FALLS ASLEEP.

On maturer consideration, and because no more feasible way suggested itself, the means of getting Fifine away mentioned in Leitner's epistle to Fafner were adopted, and measures were at once taken to carry it out. To Claus was allotted the task, or rather it fell to his lot, *in rerum natura*, to open the subject to the proposed corpse, and to explain the necessity of the proceeding. To Leitner and the Gastwirth was entrusted the delicate mission of diplomatising with Nagelmann ; while to Bleichroder fell the duty of sounding his sister in regard to making her house Fifine's second refuge and sanctuary ; although there was so little doubt about her consent, her brother's wish ever being her pleasure, that the Doctor bade his confrères proceed as though in that respect there was nothing more to be done. And so in effect it proved, for no sooner was the proposal made to Julia, than she not only gave her consent, but threw herself into the plot with all the natural zest of a woman for an intrigue. She did it perhaps the more readily because she thought from Bleichroder's frequent mention of the young Englishwoman, and his warm praise of her beauty, that he was smitten with her.

In the case of the principal, although acquiescence in the scheme was not so spontaneous and hearty, it was in the end no less generously accorded. There was naturally a reluctance to put on the semblance of death, to don its regimentals as it were, and masquerade as a corpse ; as also a hesitancy again to quit the side of her adoptive parents ; but necessity is an all-powerful compeller, and Fifine quickly recognised its force.

"To evade *his* sight and *his* touch," she said, "I would willingly face death itself ; why, then, should I fear its mere mask and semblance ? "

In giving her consent, however, she made one stipulation, and that was that the semblance of death and burial through which she was to pass should be as perfect in seeming as it could possibly be

made; for she wanted to feel that the new life which was to begin from the hour of her resurrection from the coffin should be as completely severed from the old life as it could be. At first she had thought of depriving herself of her natural rest for a night, so that when the time should come for her to ensconce herself in the chrysalis—whence she was to arise into a, to her, new world, and she hoped, a new being—she might be so overcome with sleep as to drop right off, and slumber through the trying ordeal. But there were several objections to this course; the chief of which was that she would be so tired before the time arrived for descending, figuratively speaking, into the grave, that she would be unable to enjoy the passing away as it should be enjoyed. She wished to sink into her seeming death as it had always appeared to her a happy spirit should sink into its last sleep—a state in which pain, and the remembrance of pain, gives place to delightful consciousness of something akin to music, but a music that can be felt and seen as well as heard.

She therefore decided upon having a sleeping draught, which should be administered to her when she had lain down in her coffin, and that when she had been carried to Schoenberg, she should be allowed to wake of her own accord. This was agreed to, and the Doctor charged himself with the task of administering the potion.

With the undertaker there was a little more coming and going, more consideration, deliberation, and negotiation. He had first of all to be reassured as to the safety of the undertaking; then as to the possibility of carrying it through successfully. In regard to the second point, his doubts were removed when told that Leitner would, dressed as a labouring man, undertake to help him to carry the coffin as far as the quay, where they would be met by Herzl and Bleichroder, also *en paysan*; while the Wirth would be on the look-out and ready should he observe any hostile movement on the part of the Holy-cityites, to send out Hans the tapster and Johann the cellarer, to engage them in a street brawl, and compel them to beat a retreat. Claus was to be on hand to act as a reserve either to run or to stay, as the chances of battle or of truce required.

It was now necessary to reduce only one other stronghold in the undertaker's lines of defence, and that was the more difficult because it was not exhibited or paraded, but held in reserve, and hidden behind lesser and masking defences. This was his cupidity, which was the donjon and keep of his whole mental economy, with the taking of which all was vanquished. This stronghold was, however, eventually measured and successfully scaled with a golden ladder.

Preliminaries having thus been arranged, it was decided that Fifine's burial and resurrection should take place on Friday immediately after nightfall. The intended obsequies were kept a profound secret among those concerned, not even Wendel being allowed to participate in it. Bear and Zerafine were greatly troubled at the shortness of the notice, which did not allow them, they said, any time for preparations, which of all times is most beloved by women.

To them the pulling out of clothes, the deciding what shall be taken and worn, and what not, the packing and the general making ready, is the most enjoyable of seasons, and to curtail it is to cut off large cantels out of the sum of their happiness. However, they managed between Thursday evening—when the preliminary arrangements were finally settled—and Friday afternoon, to have all the necessary preparations made for Fifine's translation.

Meanwhile Nagelmann had been at work on the coffin ; he made it light, and as roomy as possible ; lined it with soft cotton wool and silk, so that the enclosed spirit might lie soft and warm, as the grub in its silken cocoon ; ventilated it well top and bottom, and altogether made it a more pleasant house for the dead than the majority of Christian house-builders make for the living.

When ready, it was taken quietly down to the Bromm dwelling, and put into the front room on a couple of chairs. Then word was sent to Nussbaum, and presently he and his better half came up to view it, the curiosity of the thing even making the Frau Wirth depart from her ordinary use and wont, and visit one of her neighbours' houses. They both admired the coffin, but the Frau Wirth shuddered at the idea of any one getting into it alive, and being covered up. Zerafine, however, assured her from personal experience, that one could lie in it as comfortably as a thimble in its case.

After the worthy couple had gone, the fair Annette stole up, looking very miserable and shamefaced. She took a longing look at the coffin, and said she wished she was going to be put into it, and be carried away.

"Why do you wish that?" asked Fifine.

"Because I am tired of my life," replied the little simpleton.

"Pots-blitz!" exclaimed Zerafine. "What figment have we got in our head now? You do well to talk about being tired of life—you."

"What is it, Liebchen?" said Bear tenderly. "Have we got that headache yet?"

"Or is it the heartache?" asked Fifine, kissing her.

"Nay, all she wants is to go to sleep in the coffin, and be awakened by a kiss from Adolf," said Zerafine.

Annette blushed scarlet, hid her face with her hands, and ran out of the room. As luck would have it, Leitner was coming upstairs as she ran down. He had not had a chance to speak to her properly since the night of the party. She had either been out when he called or indisposed, or if he saw her no opportunity occurred of speaking to her alone. He now seized her by the hands, and held her tight ; she tried to hide her eyes, in which there were tears, and her burning face ; and when he would have turned it to him, she cast upon him such a distressed and agitated look, and said so imploringly : "Oh, let me go!" that his hands relaxed their grasp, and she fled indoors like a stricken bird.

"Mein Gott!" said Adolf to himself ; "am I then going to lose both at once?"

As the time drew nigh for the closing of the coffin, Claus and Bear became very sad, and were ready to shed tears, while as to Zerafine she retired into the kitchen, and wept so copiously, and mopped her face so thoroughly, that she had little need of washing afterwards.

But Claus, thinking it would be of but bad augury to send Fifine forth on such a journey with tears and woe-begone countenances, hit upon an expedient to make them merry, or at least cheerful. So, taking a long cloak, and throwing it over his shoulders, at the same time fetching in Zerafine, he began to deliver a discourse, with a mock-solemn visage, but had scarcely got out the words, "Dearly beloved sisters," ere a knock at the outer door announced visitors. They were Bleichroder and Leitner. The latter was so disguised in a workman's blouse and cap, with the addition of a sickle-shaped beard, that all except Undine were for a moment puzzled as to his identity.

"Take seats, gentlemen," said Claus, motioning them to chairs near the coffin. "I can now say, brethren and sisters, instead of sisters merely. I was about to improve the occasion by a few remarks on the joyful ceremony at which we are called upon to assist. We are about to see a beloved daughter and sister undergo a glorious translation. Out of this house of sorrow and pain, where we are often called upon to deny ourselves lawful and commendable pleasures, she is going forth on a momentous journey; not a long and tortuous one, nor filled with hardships and dangers, but one so short that we can hardly fit it with a measure of time. If we say it is for shortness like the flying of a weaver's shuttle, or the winking of the eye, we exaggerate its brevity. It is so short that one can barely think, 'Where am I?' but we are at our journey's end. And what an ending it is! No more care or care, no more trouble, no more clipping of the wings of praiseworthy desires; no more gyving of the feet of high-skipping hopes; no more drowning of laughter in salt tears; no more crow's feet or feet down at the heels; an un-down-at-the-heels and out-at-the-elbows world!

"Why, then, should we sorrow when our beloved ones go forth on this journey? Do we weep or make long and sad faces when we see them into the boat that is to ferry them over the river to those Elysian fields of ours, the vineyards? Nay, we wish them much joy, and use our handkerchiefs as signals of our pleasure, and our only regret is that we cannot go with them, and join with them in the sports and pastimes there indulged in. And yet the journey thither is longer and more toilsome than this we are contemplating, and the joy is less at the end of it. Therefore, brethren, mop up your tears; the bogey is out!

"Look you, friends, at this shell—at this boat which is to carry our beloved one over! It is black on the outside, truly; but blackness is only the colour of depth—of that which we cannot see, and therefore typifies the rapidity of this journey, which is so swift that eye cannot see it. The inside is soft and silken as becomes a cocoon

whence the transforming grub or spirit is to spring into a new life. Her day here is done ; she must forth. Into her silken chrysalis she crawls, and falls into a gentle euthanasia to a music soft and melodious ; we cover her up from the night dews and the disturbing voices of the street, and lo ! before the ‘Vale’ is well spoken, and ere the music has died upon her ear, the ‘Salve’ is heard on the yonder side, and a well-known voice saying : ‘Thou hast embarked, thou hast made the voyage, thou art come to shore ; get out !’

“Come, friends, be gay ; strike up a merry tune ; and if our eyes give forth tears, let them be tears of joy. As to thee, traveller, deck thee for the sleeping and the awakening ; thy time is up. Rejoice, too, greatly, because thou shalt awake free, for no husband can track thee whither thou art going. Vale, sweet grub ! vale, fair spirit ! Quick, Adolf, some mad Carnival music !”

Leitner gave Fifine his hand, and then going into the next room, seated himself at the piano, and began playing. The Doctor also took leave, but said he should see her again presently. Then Claus handed his “sweet grub” a glass of water containing the sleeping potion, which had been prepared by Bleichroder, saying he would depart from the custom of the Roman church in saying mass for the dead, in that he would bless the water. Fifine drank it off without hesitation, and kissing tenderly her parents and Zerafine, who then left the room with overflowing eyes, she stepped into the coffin, and after arranging herself with as much care as if she were going to a bridal, allowed herself to be laid out full length. She wore a long, creamy-white, stole-like garment, held together about the waist with a golden girdle, white satin slippers, a bit of plain ruching round the neck, and about her head a simple blue ribbon to hold back the golden glory of her hair.

Leitner now played a low sweet tune, and Bear, taking a seat by Fifine’s side, and holding one hand in hers, presently saw her eyes gradually close in sleep. There was a quiet smile on her lips, as though moved by some genial comedy she was beholding, and a flush on her cheeks, while about her white brow and neck clustered the wheaten coils of her hair. She looked so beautiful that Bear and Claus gazed upon her with wonder and awe. Neither of them spoke, but Claus could not help reflecting on the strange circumstances which had placed that fair creature under his charge—a charge he held to be as sacred as if she had been of his flesh and blood—and asking himself whether he was not by this act handing over to others the care Providence had placed on him ? This question suggested others, the better to resolve which he stepped to the window, and began drumming with his fingers on the glass.

When he had turned his back, Bear leaned over the fair corpse, and imprinted a kiss on her brow, leaving with it a glistening tear-drop, which she could not help shedding, because the dear sleeper looked so happy and contented.

The Professor now turned from the window, and came towards Bear with a look of consternation on his face.

"What is the matter?" she asked.

"He is not at the window!" replied Claus, in a whisper.

"What of that?" asked the other.

But Claus, without staying to answer her, motioned her to stay by the coffin, and hastened into the next room to Leitner, whom the Professor's announcement visibly disconcerted. Such a thing had not happened day or night, so far as they knew, since they had first discovered the player at the window.

"What does it mean?" they asked each other. "Is our secret out? or is he on some other tack?"

Adolf thought he had better consult with the Gastwirth on the point, and went down for the purpose. But it was small counsel he got from that quarter.

"Nay," said the Wirth, "how should I know what to do? It seems to me we have mixed up in a thing we had best have left alone. However, I have promised to see this last bit of tomfoolery through, and I won't go from my word; but after this I wash my hands of the whole affair."

Leitner was so surprised at receiving this answer, so different from the Wirth's usual way, that his ready wit no longer served him, and he turned and went away without so much as a why or a wherefore.

"Du lieber Gott!" he exclaimed, as he went upstairs. "What kind of an entanglement is this?"

CHAPTER XXXIII.

HERZEL MEETS HIS FATE.

While Claus, Leitner, and company, were wondering what chance or design had taken his face from the window, the Flautist was quietly planning with his friend Raubvogel another stratagem to surprise the secret of the Prediger-House. Since his discomfiture by the ghost, the discarded husband had, as we know, established a close and constant watch upon the house; although, as we know, he divided the watch with his owl-eyed companion. The mistake of Claus and Leitner in supposing that it was always the Flautist's visnomy that served as picture to the frame of the window, arose in part from the distance—which lends deception, as well as enchantment to the view—and in part from the broad general resemblance between the two faces, both being of a long, thin, ashy-white complexion. At length, getting weary of this slow work, Goldwhistle determined to make another visit to the Prediger-House, if by any means he could discover a safe way of doing so. He thought of many expedients, but none of them exactly hit his mind, for his two discomfitures in the house made him very chary and nice about his next mode of visitation. Indeed, he thought it might be well to pay the visit by deputy, and did his best to induce Raubvogel to undertake the mission; but that worthy, not having the heart of a gosling, immediately excused himself, before even he knew what the proposition was.

" You might hear what it is I propose before you object," said Goldwhistle.

" Oh, that's not at all necessary," replied his companion. " I always know from a peculiar feeling in my spinal marrow when a venture is for me or not."

" But how can your marrow know anything about it when you do not know yourself?" queried Goldwhistle.

" It's sympathy," replied Raubvogel; " we sensitives don't need to know—we feel everything."

" You might hear me out, any way; I suppose your sympathy does not object to that!"

" No, of course not," replied the sensitive.

" Well, then, my idea was this," said the Flautist; " that you should go over the way to Claus Bromm's, and pretend you have heard something about the lady that was lost, and so find out from them whether they know anything of her whereabouts. Surely there is neither difficulty nor danger in that!"

" Difficulty or danger," said Raubvogel, " is not the question; the point is, it is not my trade."

" Oh, you would still be cheating girls and old women out of their groschen," sneered Goldwhistle.

" Well, and what would you be at? A bigger prize, perhaps, but not the better on that account," replied the other.

" No offence," said the Flautist, deprecatingly; " I meant no offence; every one must use the gifts he has, and mine have ever prompted me to strike at big game and leave the small fry to the lesser wits."

" You have no need to sneer at my small gains," said Raubvogel; only half mollified by the other's last speech; " we have both lived upon them of late."

" That's true," said Goldwhistle; " but let us carry through this little job we are on, and I can tell you there will be good grist for both our mills. Lend your hand but a bit longer, and you shall never need to look at handwriting or old woman's tow again."

" I'm willing," said the sensitive, winking portentiously; " and now, since we're friends again, I'll tell you of a plan by which you can get the information you want without the least risk."

" What is it?"

" You know we learned that old Bromm went to the police about the young woman; well, dress yourself up as a policeman—I can borrow you a uniform—and go, and make the inquiry as though you were from the chief commissary of police."

The plan struck Goldwhistle as being the very thing, and preparations to carry it out were at once entered upon. The above conversation took place on Thursday night, and in accordance with arrangement, Raubvogel went out on Friday to procure the necessary disguise. He returned just after dark, and when the window of the two worthies' lodging became so suddenly and alarmingly vacant, Goldwhistle was inducing himself—like another Patroclus—in the

helmet and habiliments of a sergent-de-ville. Certain articles of the uniform required some taking in or padding out ; as, for instance, about the stomach, of which, as we know, Goldwhistle had not much, and at the shoulders, where he sloped like the roof of a house ; in which respects Raubvogel, being something of a tailor, undertook to remedy them. When he had taken the necessary measurements, the Flautist put on his proper habiliments, and again took up his post at the window.

He had not been long there, ere he saw Nagelmann and a workman come out of the house with a coffin, with which they proceeded down towards the river. When they had passed, Nussbaum came to his door and stood with his hands in his pocket, looking up and down the street. Goldwhistle had such love of the Wirth that he growled out a bit of the devil's litany, and shook his fist vindictively at him.

The night had turned out very dark and wet, which favoured the removal, so that, although the trying on of the disguise by the husband had caused a delay of nearly an hour, the fleeing wife passed through the vale and shadow of death with perfect secrecy and safety. The Doctor and Leitner brought the coffin into Frau Schwarzbach's private boudoir unseen by any of the servants except the old butler, who, the Doctor used to say, was as safe as a corkscrew. Nobody was present but those two and Julia when the coffin lid was lifted off, and the sleeping beauty exposed to view. Fifine seemed hardly to have moved at all, although there was a slight dew of perspiration on her brow.

"What do you think of her ?" asked Bleichroder of his sister, seeing her stoop over the coffin with clasped hands, and large, astonished eyes.

"I never saw anything so wonderfully beautiful in all my life ! Why, she is a perfect Dornröschen !"

The Doctor now looked at his watch, and finding it near ten o'clock, said it lacked but about a quarter of an hour of the time when she should awake, the sleeping potion having been timed for about two hours, and Fifine having now been asleep an hour and three quarters. Leitner, therefore, went, and quickly changed his clothes (having provided a change for the purpose), and came into the next room, where Herzl was also waiting in a state of great curiosity, and taking his seat at the piano, began playing the same air with which he had gently lulled her to sleep. The Doctor and his sister sat by the coffin, and watched the sleeper's awakening. Bleichroder put out some of the lights, so that she might not be awakened too suddenly. Presently she heaved a sigh, and moved slightly on her pillow ; then she stirred one of her hands, and that coming against the narrow edge of the coffin, caused her to start, which made her feel the confinement of her bed, and thus awoke her completely. She looked about for a moment in bewilderment, but presently perceiving the Doctor, who held out his hand to assist her to rise, she smiled and, taking the proffered hand, rose out of her coffin like a butterfly out of its chrysalis, or Venus out of the sea.

Julia, who had dropped into the background, now came forward, and without waiting for an introduction, embraced and kissed the newly-risen Fifine with a hearty good will, and bade her welcome to Schoenberg.

Undine was now conducted by them into the next room, where she was duly introduced to Herzl. The story of her misfortunes, the strange and strangely fulfilled dream he had about her, and the unheard of strategem which had now brought her out of reach of her unworthy husband, all conspired to invest the young Englishwoman with an interest at once weird and romantic in the eyes of the artist. If there had been nothing else but these influences to awaken curiosity in the artist's mind, it would have been enough to make him regard her with no common emotion ; but in addition to the interest which attached to her as a person whom Providence had marked out by uncommon vicissitudes, there was the charm of her unapproachable beauty, which was of such a nature that, in spite of the foretaste of his dream, and the descriptions of Leitner and others, he was quite taken by surprise. Artist though he was, both by nature and education, and ever on the look-out, as it had been his training to be, for beauty, which was to him (as to the old Greeks) the chief good, he had never seen anything like hers before. No wonder, then, that his first feeling on beholding her was one of awe—an awe akin to that of Endymion at the apparition of Diana—or that his tongue failed to fashion the most ordinary words of salutation ; for although the man had long dispossessed the youth in his nature, and although acquainted with the world, he was by no means *blasé*, but retained the whole gamut of the emotions fresh and uncorrupted ; and the sight of a beautiful and innocent woman was still a sight worthy of adoration.

He looked very solemn, and Fifine thought him dull—that is so far as she thought anything at that moment, for her ideas were all in a whirl. The adventure through which she had just passed now struck her, as it had not done before, as something akin to madness. When she was, as it were, within eyeshot of her husband, and might be seen, or even dropped on at any moment by him, she thought of nothing but the best means of escape, and was, as she said, prepared to flee into the arms of death itself, to avoid his ; and so assented to this funereal method of removal, because it was presented as the most feasible, although she herself had suggested retreat to her garret where, she thought, with some few additions for her comfort, she might a little longer invoke the protection of the ghost. The plan, however, was overruled in favour of entire removal, which was considered, and with justice, less hazardous. Now, when accomplished, and accomplished successfully, it appeared to her one of the most hair-brained of her escapades.

The Doctor now excused himself on the ground of an engagement he had to fulfil, and took his leave. Julia accompanied him to the door, where, patting him on the shoulder with her fan, she said—

"I know now why you have taken such interest in this little Englishwoman."

"Why?" asked he.

"Because, if ever an old man was in love with a young girl, you are in love with her!"

"So! you think so, do you, my sister," replied Bleichroder, with a smile.

"Yes, my brother, I do."

"But why think you so?"

"Oh, I think I know the symptoms when they appear in the eye, as well as you know measles!"

"I am surprised how clever you are at diagnosis, my dear Julia; but possibly you may be deceived. Several diseases have common initial symptoms, and this that you take in me for love may be—mischievous, for instance."

"Ey! ey!" cried Julia, with a laugh, "so it may, but—Get you gone!"

When Frau Schwarzbach returned to the drawing-room, Adolf rose to take his leave. Herr Herzl also rose, and said he would walk a little way with him.

When they had gone, Julia showed Fifine to her room, which was large, and most sumptuously furnished.

"Now, so long as you stay here," said the good soul, "and I hope it may be a long time, you must consider yourself as my daughter, or, if you like it better, as my sister, and ask, without the least hesitation, for anything you want or would like."

"You are very good," replied Fifine; "but I hope things may so happen that I shall not need to trouble you long."

"You won't trouble me," said Julia.

"But—" She was going to say she had no right to be there; but before she could get the words out, the thought of her utter helplessness, and her dependence on the good nature of others, overpowered her, and after struggling against her feelings for a moment, but in vain, she leaned her head against the matron's shoulder, and sobbed like a child. Julia drew her to a couch, and holding her head on her breast, she rocked her to and fro as she would have done a fretful child, and let her be until her tears were dry. When Fifine had wiped her eyes, she looked up, and said she did not know what she had done that everybody should be so kind to her.

Herzel's short walk with Leitner lengthened itself into a long one, terminated by a little supper together at the Burgherverein (Citizens' Club). Adolf had determined that after he had seen Fifine safely landed at the Schoenberg, he would return and claim an explanation from Nussbaum of his anger. When he arrived at the house, however, it was much too late for any such conference, and so it had perforce to be put off till another time. In his room he found a letter from Fafner, in which the writer referred to the late domestic episode as the "Attic Comedy," and to Fifine as a *Dea ex machina*, who at her nod or beck, or without either, by the simple power of

her nature, could mould the hearts and wills of those who came under her sway, making them more her instruments than their own proper masters. He finished with the caution : “Don’t let it be said, *De te fabula narratur.*”

“So !” exclaimed Adolf, taking a good handful of hair, and tugging at it as though it was a mane, and he would pull himself up ; “That, then, is the way the wind blows, is it ! Mein Gott ! that I should not have seen it before !”

It now struck him for the first time what was the cause of Nussbaum’s temper, and Annette’s indisposition. His zeal on Fifine’s behalf had made her jealous and him angry. The discovery occasioned Leitner a bad quarter of an hour, during which he walked uneasily to and fro with head depressed, and hands a-pocket. There was that amount of impetuosity in him to put crooked things straight, that he would have rushed right downstairs at once and set matters right, had that course not been altogether out of the question. However, he resolved to do so first thing in the morning, and this resolution and a consolatory pipe put him in better tune. This achieved, he sat down and wrote as follows to his friend :—

“ LIEBER FAFNER,—Our ‘Attic Comedy’ (I thank you for the name, although I think I shall for my own part, prefer to call the adventure an ‘Attic Crusoe’) is now finished as far as the third act ; how many more there will be ere the curtain drop on a happy conclusion I know not : so far the plot only seems to thicken. Let me tell you how it stands at present. We have to-night effected the death, burial, and resurrection of the fair Dea, as you call her ; I saw her well and sprightly after she had risen from her coffin, and it only remains for the outwitted worser half to pack up his traps and budge—that is as far as he is concerned. But, on the other hand, I see complications on complications arise. What do you think of this Theodor Herzl being head over ears in love with her already, although he saw her to-night for the first time in *propria persona*, and then barely exchanged twenty words with her.

“ He is a strange creature, this artist individual ; not at all like you, my dear Fafner, but of a good sort nevertheless. If you were a woman I should not tell you what I am going to do, because you would straightway go and be jealous, as is the way with all the female sex, my own Annette not excluded—to my sorrow be it said ; but of that anon.

“ Well then, this Herzl is a man pretty much of your own age and stature, but—unlike you—he is dark, with regular and even fine features. He has more of the appearance of an Englishman than of a German ; has somewhat, too, of the bearing of one of that nation, being rather reserved, taciturn, and a little brusque, but on acquaintance, frank, generous, and confiding. In another respect also I think he partakes of the English character ; namely, in that he has more of that sombre, even wierd, imagination which lends and allies itself chiefly to the moral power, and deepens the character on that side, than we Germans ; but in this I may be mistaken, in which case

you will correct me. Any way there is an ‘aloofness’ in his character, and also in his work, which I can attribute to nothing else. In his pictures there is a something which I cannot call by any other name than ‘insight,’ but which he calls ‘humour’; as different, however, from anything usually called humour as a hop from a walk.

“He is, moreover, the only specimen of the *genus homo* I have known in whom inspiration is a positive faculty. You shall know him some day, and judge for yourself whether I am right or not. Was not his dream about Fifine something akin to an inspiration? It only fell short of the actual truth in that it failed to picture Fifine to him in all her beauty; hence, although he expected to see something very beautiful, he was totally unprepared for the vision of perfect form that was presented to him. He was like one dazzled and bedazzled, and did not recover himself the whole evening. It was clear to see that his heart was taken captive as surely as that of the Veronese Montague, although he said but little during the evening to betray himself, until we parted on the promenade near midnight, when he said, referring to his dream about and meeting with Fifine: ‘There is fate in it; though how it will end it is impossible to foresee.’ I am sorry for him if he is deeply smitten, as I fear he is. If Fifine were unmarried all might be well; but with a dead Siamese twin attached to her in the shape of a discarded husband, what can result but unhappiness?

“But this is not the only complication coming to the front in this our comedy, promising before it end something of that tragedy whichmingles somehow with all our comedies. I have reason to believe—strange as it may appear—that Dr. Bleichroder also has conceived a large tenderness for the fair Dea. Are there not elements of tragic-comedy here?

“And now, my dear Leitner, having told of others’ loves, let me say somewhat about my own, which, if not in danger of being nipped in the bud, is suffering the effects of a premature frost. I now too well surmise the cause of the indisposition I told you of on the night of the party, and which has continued ever since. It was a bit of jealousy; and from Annette it appears to have spread to the Gastwirth, if not to the Frau Mother also; for it is a disease as infectious as the measles. But I am anxious for morning to come so that I may medicine it, and so, lieber Fafner, Good-night.”

CHAPTER XXXIV.

THE GREEN-EYED ONE.

When Wendel entered Leitner’s room in the morning, she found him already up and singing—

“Du bist wie eine Blume
So schön und rein und hold.”

“You are up betimes this morning, M’sieur Leitner,” she said. “Perhaps you are going to see the fair Annette and her mamma off?”

"Annette and her mamma off ! What do you mean ?" exclaimed the young man.

"Sabel told me this morning that they were going on a visit to their relatives at Enkelheim by the nine o'clock train," replied Wendel.

Sabel had also told her that she believed there was some trouble between Annette and Leitner, and that the visit had been suddenly decided upon in order to break off the engagement. No sooner did she hear this, than Frau Grossbein burned with the desire to be the instrument to break the tidings to the person chiefly concerned, and to see how he would take them, hoping thereby to be revenged for the trick he had played upon her in reference to the ghost-laying. What she did see hardly gratified her to the full of her bent.

"Sabel was probably trying your gullability," observed Adolf, pouring out his coffee.

"It does not look like it," replied Wendel, looking out of the window, "seeing that there is already a cab at the door with their luggage in it ; and see, the Gastwirth is handing them in !"

Leitner put down the cup which he had raised to his lips, and stepped to the window. There, surely enough, was Annette and her mother in the carriage, and Nussbaum getting in after them. His first impulse was to run downstairs, but thinking his presence was not desired, he restrained his feelings, and watched at the window till they drove away, hoping that Annette would cast up one glance at his window ; but no, she went away without so much as raising her eyes. Adolf felt more than he cared to show, knowing that Wendel was watching him, and would report everything. He therefore merely observed that their departure was somewhat sudden, and went on with his breakfast.

"Then you did not know that they were going away ?" said Wendel, affecting surprise.

Leitner went to business with a sad heart, and returned with a sadder, for the day's lucubrations did not tend to put a more cheerful aspect on affairs. It was plain that he had given mortal offence to Annette by his attentions to Fifine, and that her parents had taken up her quarrel. He could see well enough now how it had arisen. Annette had become jealous after the ghost escapade ; she was still under the baleful influence of the green-eyed monster at the supper, and he, fool-like, instead of recognising the fact, and making allowance for it, deliberately left her alone, and played and joked with the very one who was the innocent cause of the trouble ; even then, when her continued indisposition ought to have opened his eyes, he still went on blindly augmenting the disease by devotion to Fifine, and neglect of her, until the climax came. Frau Nussbaum, he knew, was a proud, suspicious woman, jealous of attentions paid to others, and very resentful of any slight, or fancied slight, put upon herself or her family. She was of the lowest burgher class, most devoted in her duty to her husband and her family, but ignorant and narrow-minded, and incapable of forgetting that her husband was richer

than most of their neighbours. Hence the assiduity with which she stayed at home, and became gradually obese and apoplectic by sitting upon the family honour and nursing its petty pride. Nussbaum was naturally of a very different character ; but you may put an archangel with a lower nature, and in time it will drag him down. So Nussbaum had become touchy like his wife on matters concerning the family dignity ; and in respect of Adolf's delinquency, it had only required one protracted curtain lecture, and two or three quiet insinuations in regard to what was due to the family's offended honour, to bring about the outburst on the Wirth's part recorded above, and the sudden determination to give Annette, her mother, and little brother, the benefit of a change of air and society.

"What should be done ?" thought Leitner, as he walked home in the evening to dress, having the night before accepted an invitation to dine with Herzl at the Artists' Club. To one thing he soon made up his mind, that was to see Nussbaum at once ; accordingly, when he reached the Prediger-House, he immediately entered the inn, and seeing the Gastwirth in his desk, went up to him, and bade him "Good evening."

"Guten Abend !" responded the Wirth gruffly.

"Madame and Annette have gone out of town, then ?"

"Yes."

"Their journey was rather sudden, was it not ?" continued Adolf.

"Somewhat," replied the other curtly, without looking at his questioner.

"Might I have two or three minutes' private conversation with you ?" said the young man, seeing that waiters and customers were within hearing of them.

"Afterwards ; I am busy now," replied the Wirth brusquely, and still without looking at the young man.

Adolf felt the rebuff, but replied with perfect temper that he was going to dine with Herr Herzl, and might not be back again till late, but perhaps to-morrow he might have a minute or two to spare. Nussbaum's only response was a lugubrious, "Perhaps."

When to-morrow came, that is Sunday—a fact which Leitner did not think of during his conversation with the Gastwirth—he found that worthy had taken an early train to Enkelheim ; so that the desiderated explanation was again of necessity deferred. The young man reflected, with not a little chagrin, that the estimable father of his beloved Annette must have known of his intended journey, and might have communicated the fact, without spoiling the unamiable humour which he was then in.

"But I will repay thee, Anton Nussbaum, and thy dull spouse with double and treble interest," said Adolf to himself ; and with this reflection uppermost in his mind, he strolled down to the Schoenberg, where he was engaged to dine.

The next day Adolf again tried to see Nussbaum, but was again unsuccessful. On Tuesday, remembering that the Gastwirth nearly every afternoon took a walk along the promenade, entering it at the

bridge and going round to the Torkenheimer Gate, whence he invariably returned home through the city—Leitner obtained leave of absence, and proceeding to the Gate walked in the direction of the bridge. As he anticipated, he met the Wirth before he had gone very far.

“Perhaps you will now give me the few minutes’ conversation I desire,” said the young man, after saluting him politely.

Nussbaum replied, in a no very agreeable manner, that he might say what he wished. Leitner therefore began at once *in medias res*, as was his manner. He said—

“I observe that I have given grave offence by something I have done, and wish to make matters straight if they can be so made.” Having made this preamble, he paused a moment for the Wirth to make a reply; but he gave no sign, and so Adolf proceeded: “I can’t say that I am ignorant as to what constituted the offence; at least I imagine that I can place my finger on it; but I can honestly say that I have done nothing consciously to merit your or Annette’s anger.” Still Nussbaum made no reply, and Leitner continued: “Is it because I did an act or two of kindness to an unhappy woman in a strange land that I am in disgrace? If I had refused or failed to do those acts I should have better deserved your anger.”

Here Adolf again paused for the Wirth to reply, but he continued to walk on in silence, looking neither to the one side nor to the other. Then the young man asked—

“Is there anything more that I have offended in? If so, I am ignorant of it.”

“And so am I, by Heavens!” exclaimed Nussbaum, turning towards his companion, and holding out his hand. “Say no more about it, lad, and let us be friends, and leave the squabbles to the women. They’ll soon come round, take my word for it!”

So between these two at least peace was established, and in accordance with the Wirth’s desire, they supped together; after which the worthy host became extremely confidential, telling Adolf he did not know a man he would sooner have for his son-in-law; “not even,” he added, “if he were highly well-born and rich to boot. I don’t reckon much on those things anyway; what I want for the girl is a well-behaved youth who will honestly try to make her happy; and for that man there will be twenty thousand gulden on her wedding day. What do you say to that?”

“The money is not to be despised,” replied Adolf; “but I have never thought of anything but herself, and would accept her with only her love for a dower if she were willing.”

“Ah, that’s just like the young folk,” said the Wirth; “love’s enough for them to begin with; but its wonderful how much a little money mellows the thing after a while!”

We must now recount another incident that occurred the same evening while the Gastwirth was taking his “constitutional.” It happened that, at the same time, the undertaker was the only male person, except the inn waiters, in the house; Claus having got

through his lessons as soon as he could and hurried off to Schoenberg. Bear had some household duty to attend to which could not be put off, or which she thought could not be ; for she was one of those women who make themselves slaves to small domestic duties, and so become chained to their homes, like galley-slaves to their oars. Claus had barely left the house ten minutes, when an inspector of police called, and producing several papers from his pocket, asked if Herr Claus Bromm resided there ; then, on being answered that he did, demanded information as to whether they had heard anything about the young Englishwoman reported to have been lost.

Zerafine had opened the door to the pretended police inspector ; for it need scarcely be said that it was no other than the redoubtable Goldwhistle. Bear, however, was present in the room when he entered, and she answered his preliminary questions, her shrewd companion and domestic meanwhile examining the official with a pair of eyes which nothing escaped. The Flautist's make-up was as well-nigh perfect as it could be, and might have deceived even sharper eyes than Zerafine's. There was something about the face, however, that made her think she had seen it before, but she could not recall under what circumstances. Her doubts were increased when she suddenly heard Beauty begin growling and scratching at the kitchen door, and at the same moment noticed a twitching of the muscles about the man's mouth. The thought instantly occurred to her, "Could it be the Flautist?" but she rejected the idea because of the perfectness of the disguise, and because, moreover, she did not think he would have the courage to come into the house again ; she was emboldened, however, by the suspicion that he was afraid of the dog, to take the answering of his questions out of Bear's hands, or rather out of her mouth, into her own. She answered none of his questions directly, but with apparent frankness misled him as much as she could. They had heard a great deal about the young woman from different people, she said, who pretended to have seen her, or to have known some one who had ; but the only difference they found in the information given them was that it was a little more stupid in one case than another.

"Can't you tell me," he said, still pretending to note down the answers given him, but with a nervous tremble of his hand—"can't you tell me, yes or no, whether you have any certain knowledge as to where she is ?"

"No more than I have told you," answered Zerafine.

"Do you know whether she is in Kaiserstadt or not ?"

"Have I not told you ?"

"No, you have not."

"Well, then, she is not in Kaiserstadt," said Zerafine, thinking she might as well go over boots as over shoes.

"Then you know she has left the city ?"

"Yes," she replied, thinking one more plunge would be the last.

"Can you answer me this one more question : Has she gone back to England ?"

"If you will assure me that what I say will not be turned to her hurt, I will tell you exactly what we know," said Zerafine.

"I assure you it will not."

"Then she has gone back to London, I believe, on some important business connected with her family, and that is every bit we know!"

This seemed to be all he wanted to know, for he at once put up his papers, and prepared to go, Zerafine expediting the operation by saying: "Be still, Beauty; I'm coming," and suiting the action to the word. But before she could open the door, and take Beauty in her arms, the pretended official had made his exit, and so quickly was he downstairs, that when she got out on the landing he was out of the street door.

"I do believe it is that scoundrel again!" exclaimed Zerafine, going in, and shutting the door.

"What scoundrel?" asked Bear.

"What scoundrel! Had you no suspicion of him?"

"No; why should I?"

"I only wish Claus had been here, or some other man, or better still, I wish I could have been a man for five minutes—would I not have pealed him! Oh, that Providence should have put me into the skin of a woman!"

"Why, what is the matter? Who do you suspect him to be?" asked Bear in astonishment.

"I would wager my wits against a green cheese that if we had shaken the man out of the clothing, we should have found that miserable gutter musician and would-be necklace stealer!"

"You don't say so!" cried Bear.

"I do, though; and I wish now that I had let Beauty at him. To think that we should have let him take us in so!"

"It strikes me that he did not take you in so much as you took him in," answered Bear, with a smile. "It almost skinned my tongue to hear the awful fibs you told him."

"Well, what would you have had me do? Tell the wretch the exact truth? Not I. And if a lie is never told in a worse cause, no one will get much harm by them!"

When Claus returned about an hour afterwards, he was at once made acquainted with the incident of the police officer, and putting the statements of the two women together, hardly knew what to make of it; for while Zerafine persisted in her belief that their visitor was no other than the Flautist, Bear—although less assertively—maintained that he no more resembled the poor musician than he did the Prediger.

(To be continued.)

Facts and Gossip.

DR. J. MORTIMER GRANVILLE writes to the *Times*: "Many persons who are not by habit 'dreamers' are dreaming a great deal just now, and wondering why they do so. The answer is very simple. When cold weather sets in suddenly, and is much felt at night, the head, which is uncovered, has the blood supplied to it driven from the surface to the deep parts, notably the brain—the organ of the mind. The results are light sleep and dreams. The obvious remedy is to wear a nightcap or wrap the head warmly, at least while the cold weather lasts. I believe we of this generation suffer more from brain troubles than our predecessors, because we leave the head exposed at night, and the blood-vessels of our cerebral organs are seldom unloaded." Perhaps some persons may be induced to try a series of experiments with and without nightcaps to find out what truth there is in Dr. Granville's idea.

MEMORANDUM.—It should be thoroughly understood by those who feel inclined to experimentalise on themselves, that the nightcap referred to is not the glass of grog so-called, but the genuine old-fashioned cotton article of that name.

DR. GRANVILLE has also been instructing us, through the columns of a contemporary, how not to take a cold. "A cold," he tells us, "may be nothing more than an interruption of the natural vibratile state of the molecules of the nervous centre;" but even then it is very painful. The way to ward off a cold is to do something or other to excite the nerves. The attention should be directed to this object rather than to that of getting warm. The hunting man who has got a chill, instead of letting his thoughts rest on his spirit flask, is advised to "mount a fresh horse, and take a short but brisk trot to rouse his nerves." When the "home-stayer" has caught cold, he should quickly put on his hat, and take a rapid walk or run. This is sound advice; but, unfortunately, many of us catch colds under conditions which do not allow of the mounting of fresh horses, or even of rapid walks and runs. Dr. Granville should give us a prescription for that "home-stayer" who catches cold by reason of sitting in a draughty office or chilly law-court all day, who has not got a horse handy, and cannot, for obvious reasons, take a rapid run on a wet and muggy January day.

DR JAMES FRASER, in the *Edinburgh Chirurgical and Pathological Journal*, gives the results of a series of experiments to determine the effect of the ordinary infused beverages—tea, coffee, and cocoa—on the digestion of albumen. He finds that all retard digestion, except in four instances, viz., ham and white of egg with coffee, and fish with cocoatina and cocoa. Salt meats are less retarded in digestion than fresh. The retardation is greatest with cocoa, less so with

tea, and least with coffee. Tea causes flatulency. Cream and sugar reduce the retarding effect of tea, but increase that of cocoa. He recommends as a practical conclusion that albuminoids, especially fresh meat, should not be taken with infused beverages, and therefore condemns "meat teas."

SIR JOHN LUBBOCK gives some interesting particulars in a contemporary relative to the teachability of a dog. He says: "I prepared some pieces of stout cardboard, and printed on each in legible letters a word, such as 'food,' 'bone,' 'out,' &c. I then began training a black poodle, 'Van' by name. I commenced by giving the dog food in a saucer, over which I laid the card on which was the word 'food,' placing also by the side an empty saucer, covered by a plain card. 'Van' soon learnt to distinguish between the two, and the next stage was to teach him to bring me the card; this he now does, and hands it to me quite prettily, and I then give him a bone, or a little food, or take him out, according to the card brought. He still brings sometimes a plain card, in which case I point out his error, and he then takes it back, and changes it. This, however, does not often happen. Yesterday morning, for instance, he brought me the card with 'food' on it nine times in succession, selecting it from among other plain cards, though I changed the relative position every time. No one who sees him can doubt that he understands the act of bringing the card with the word 'food' on it, as a request for something to eat, and that he distinguishes between it and a plain card. I also believe that he distinguishes, for instance, between the card with the word 'food' on it, and the card with 'out' on it. This, then, seems to open up a method which may be carried much further, for it is obvious that the cards may be multiplied, and the dog thus enabled to communicate freely with us."

ANOTHER correspondent gives his experience in the same line. After describing some tricks taught to his dog, such as feeling his pulse, &c., he says: "But when we came to the choice of medicines he failed. It was a trial of the sense of colour. Three bottles were wrapped up in red, light blue, and black cloth respectively. M. le Médecin, as we called him, and half-a-dozen others, proved themselves, after an exercise of the greatest patience on their part, and on ours, to be absolutely colour-blind. This experiment, and many analogous ones, may, of course, be rejected by Sir John Lubbock, as attempts to teach, not to learn. But besides these, we gave the dogs every chance in the class of experiments to which Sir John Lubbock has begun to devote his attention. We sometimes flattered ourselves that we were approaching a little success, but we always found that it had no permanence. In moments of inspiration, M. le Médecin seemed to distinguish intellectually between a card inscribed with a long demand, and another with a single word. He never, after the first day or two, brought up a blank card; but neither he, nor any of his companions, could permanently distinguish between the

natures of the simple wishes which we endeavoured to induce them to express—"mangeons," "buvons," "allons faire un tour."

A REMARKABLE discovery is reported on the authority of a Fellow of the Royal Meteorological Society. Dr. Carter Moffat, cousin of the late Dr. Robert Moffat, claims to have invented, after nine years' study, an instrument known as the ammoniaphone, which contains an absorbent material saturated with peroxide of hydrogene combined with condensed ammonia and other ingredients, through which a current of air is drawn into the lungs. This is said to be in reality a highly concentrated artificial Italianized air, in an extremely portable condition. Dr. Carter Moffatt's voice was originally very weak, harsh, and destitute of intonation. By the use of the ammoniaphone it has now become a pure tenor of extraordinary range. He noticed that after experimenting on himself for only fourteen days, an expansion of the chest took place to the extent of over half an inch, with a feeling of increased lung space and power of voice, which has since been maintained. Experiments are said to have been made upon choirs in Scotland with extraordinary results.

A CAPE of Good Hope correspondent writes: "In the second paragraph of 'Facts and Gossip,' page 480 of Vol. IV., you state that 'Dr. Ensor would have added a fact to science if he had told us where the mass of Carey's brain lay.' Dr. Ensor, in his evidence at Port Elizabeth, mentioned that he had taken some tape measurements of Carey's head, and found that 'the circumference was 24 inches; the distance from the root of the nose to the occiput 13½ inches; and that from the opening of one ear over the crown to the other 14 inches.' Thus, while the circumference was that of a very large head, the measurements were those only of an average-sized one. Although Dr. Ensor could have said a great deal more that would have been of value, these facts alone are of much significance to a phrenologist.

THE annual report of the United Kingdom Temperance and General Provident Institution again bears striking testimony to the superior value of abstaining over non-abstaining lives. In the two departments the expected and actual deaths during the year were as follows:—In the temperance section the expected deaths, 225; actual deaths, 157. In the general section the deaths expected were 327, and the actual deaths 295. The mortality in this section shows well for the year as compared with previous years, but does not yet approach the satisfactory results obtained in the temperance section.

WRITING to *Nature* on the subject of Unconscious Bias in Walking, Mr. G. H. Darwin gives an account of some experiments made ten or twelve years ago on unconscious bias in walking. He says: "The experiments were not numerous, but they left no doubt in my mind as to the cause of divergence from a straight path. My notes

were sent, at my father's suggestion, to the late Mr. Douglas Spalding, who was about to undertake experiments on the curious power which animals have of finding their way. In stating my results I am compelled, therefore, to rely on memory only. I began with walking myself, and getting various friends to walk, with eyes shut in a grass field. We all walked with amazing crookedness in paths which were not far removed from circles. I myself, and Mr. Galton on the first trial, described circles of not more than fifty yards in diameter, although we thought we were going straight, and afterwards I was generally unable to impose a sufficiently strong conscious bias in one direction to annul the unconscious bias in the other. I believe we all diverged to the right, excepting one of us who was strongly left-handed."

MR. DARWIN goes on to say : "I then got eight village schoolboys, from ten to twelve years of age, and offered a shilling to the boy who should walk straightest blindfold. Before the contest, however, I dusted some sawdust on the ground, and after making each of the boys walk over it, measured their strides from right to left, and left to right. They were also made to hop, and the foot on which they hopped was noted ; they were then made to jump over a stick, and the foot from which they sprang was entered ; lastly they were instructed to throw a stone, and the hand with which they threw was noted. I think they were all right-handed in throwing a stone, but I believe that two of them exhibited some mark of being partly left-handed. The six who were totally right-handed strode longer from left to right than from right to left, hopped on the left leg, and rose in jumping from that leg. One boy pursued the opposite course, and the last walked irregularly, but with no average difference between his strides. When told to hop, he hopped on one leg, and in the repetition on the other, and I could not clearly make up my mind which leg he used most in jumping. When I took them into the field, I made the boys successively take a good look at a stick about forty yards distance, and then blindfolded them, and started them to walk, guiding them straight for the first three or four paces. The result was that the left-legged boys all diverged to the right, the right-legged boys diverged to the left, and the one who would not reveal himself won the prize."

MR. DARWIN then says : "I also measured the strides of myself and of some of my friends, and found the same connection between divergence and comparative length of stride. My own step from left to right is about a quarter of an inch longer than from right to left, and I am strongly right-handed. It seems to be generally held that right-leggedness is commoner than the reverse ; this I maintain to be incorrect. I believe that nine out of ten strongly right-handed persons are left-legged. Every active effort with the right hand is almost necessarily accompanied by an effort with the left leg, and a

right-handed man is almost compelled to use his left leg more than the other. I believe that Sir Charles Bell considered that men were generally right-legged, and sought to derive the custom of mounting a horse from the left side, from the fact that the right leg is stronger than the other. I suggest as almost certain that we mount on that side because the long sword is necessarily worn on the left, and would get between our legs if we went to the off-side of the horse. I will not hazard a conjecture as to why the rule of the road in Great Britain, and inside of the towns of Florence and of Salzburg is different from that adopted by the rest of the world. For an armed horseman the English rule is, I presume, more advantageous, both for attack and defence.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

J. T. (Shildon).—You are an oddity ; you have got a lot of sense of one sort or another—some common, a great deal uncommon, and some otherwise. You also possess considerable ability. But you will never be able to make yourself pass current for your full value. Are short of push for one thing ; too contemplative, or in other words dreamy, for another. You have some sly humour, and some striking phases of insight, but your vision is as circumscribed in some directions as it is far-seeing in others. Are “faddy,” somewhat finical, and not easy to please. As capable of strong enthusiasm as you are susceptible of sudden and unaccountable prejudices. Not very successful in the use of language. Cannot easily get your thoughts expressed. You are not particularly greedy for property, but are careful of what you have. You are fitted for a business requiring thought, attention, industry, and steady habits. Are not a brilliant man ; could not be if you tried ; but possesses many solid qualities.

J. CHEW.—You have a sharp, active mind, are intense in your feelings, are positive in your character, and very distinct in your likes and dislikes. Are manly, rather proud, quick, independent, and very anxious to make your mark in the world. You have a strong will, and probably will succeed in your undertakings ; especially if you are prudent in your start. Are critical in your observations, much interested in facts, and have a practical utilitarian mind. You see, or think you do, many chances for improvement in others ; are plain and direct spoken, and are in danger of being premature in doing things, yet are honest in your motives. You should get a good, genial, domestic, practical, common-sense woman for a wife.

J. H. (Poona).—You are by organization strong, healthy, vigorous, positive, active, and industrious. You have great power to acquire knowledge, and to make it available. Have a passion for travelling, and coming in contact with varieties of peoples. You would make a good explorer. Have great power of will ; can resist foreign influences, especially of the executive kind ; yet mild measures might conquer you. You have an ear and a talent for music ; are somewhat social, but have something else to do beside being a lady's man. Should be in some responsible position where you can direct others. Are companionable in disposition ; not cruel, yet firm ; are quite cautious, and you look ahead.

E. L. W.—You probably were thrown upon your own resources early, and you are prepared to take responsibilities ; are in your element when you can act for yourself, at the same time guide others. Under some circumstances you would excel as a nurse, especially in a hospital. You have good ability to manage a school ; are well qualified to understand music (to learn to play, and on some instrument), but more especially to teach it. You are sound in your judgments, quite original in your mode of thinking ; are methodical in your mode of doing business, and you have favourable qualifications for a good business woman—for a calling, a nurse, a place of responsibility, a music teacher, or a business woman.

R. H. (Burnley).—You have a vigorous brain, are able to think closely, and to give undivided attention to the subject under consideration. You are not very showy or demonstrative, but you are sound, sensible, and original ; more theoretical than practical. You are disposed to do business on the square, and have everything understood ; are rather suspicious of strangers, and new modes of doing things. You criticise severely the theology and politics of others ; are decided, conscientious, and almost rigidly just according to your mode of thinking. You have rather strong imagination, and more than ordinary talent to reason and enlarge upon your ideas. You will be particular in selecting friends, and will be guided by a kindred spirit rather than kindred blood. Your organization favours study, invention, machinery, and a profession where some originality is concerned.

G. H.—You have a well-balanced brain and body, not subject to extremes. Are sufficiently lively, impressible, and earnest to not only enjoy yourself, but be good company for others. Still, you can be steady, firm, and persevering ; are confiding, and disposed to trust and think all is right ; will not borrow much trouble, or make matters worse than they are. You will get through the world rather easily, and in the main have a good jolly time of it. You are amiable in disposition, will make a good wife, and have good practical common-sense.

C. C.—You have a favourably developed body and brain, without any excesses or extremes of mental action. Will do better in some profession or regular business that you have once learnt correctly

than to be changing from one thing to another. You have an availing practical intellect, are quick of observation, have fair command of language and memory of words ; also an intuitive mind that is quick to take a hint, and to see the natural bearing of things. Your talent is in the literary line, and if you do your best you will succeed better as a reporter than in business or mechanics ; but you must qualify yourself with study and practice in order to excel.

J. V. A.—You have considerable strength of character, and much vigour of body and brain. It would spoil you to work you up into a fashionable lady ; but in the common work of life, or as a scholar or teacher, you will fill your place, and make your mark. You are decided, ambitious to excel, and do something worthy of a name. You will not be content to work as a maid for any one, but would like to be employed in some public service. You must have sprung from a remarkable family, having a great amount of will and moral feeling. You are a truest friend ; are strongly inclined to a religious and moral life, and you like to be engaged in a sphere of life where you could be doing good all the time. You have the impression that your friends are better than any one else's friends in the world.

F. J. (Yarmouth).—You have rather too much brain power and nervous temperament for the vital organisation. If you live a prudent, temperate life you may live till you are old, but you have no vitality to spare, and you must spend some time to get more vitality, and build up your body. Your greatest sources of enjoyment are connected with mental employment in an indoor rather than an outdoor business. You have talent as a writer or editor. You have also good taste, fine imagination, and great love for beauty and perfection in nature and art. You use language correctly, and as a writer copiously. You are quite emotional in your cause ; have versatility of talent, blandness of manner, and a keen sense of the witty and ridiculous. You live too much in the top storey of your brain, have not enough animal and physical force. It would do you an immense amount of good to lay aside care and worry, and go to Australia and back again.

W. H. GOOLE.—Your preference would be for a professional life, and you could better develop your talents, and gain the position you desire, with a liberal education. Your best natural gift is that of a speaker. Your imagination carries you before an audience : if possible, you should qualify yourself to be there ; you will have a good command of words, will be energetic as a speaker ; have breadth and elevation enough for a professional man, and, if necessary, be a champion in your cause. You are apt in contesting an argument, and are original in your views ; are capable of gaining a high moral position. Your sympathies are with the good and great, and you have comparatively no sympathy with the low and vulgar. You could succeed in science, but you have more capacity for a study of intellectual and moral science rather than physical science.

THE

Phrenological Magazine.

APRIL, 1884.

"GENERAL" BOOTH.



HE mental and physical organization of Wm. Booth—the organizer and chief of the "Salvation Army"—is peculiar and somewhat on the extreme. Very few have so marked a countenance, so strong a physiognomical expression, or so marked a development of



brain. He has a predominance of the motive and mental developments, which means constant action and work. Having a very strong constitution, he is able to do more than most men and sustain himself in the midst of continual mental

strain. He, however, thinks and works easily, for he takes everything in the most natural way, and is as free from the artificial and unnatural as possible. Few have such easy motion, or can work so long with so little fatigue. His mental temperament favours a clear mind and distinct desires and thoughts ; and he is very receptive, and easily impressed by all surrounding influences. He has large perceptive faculties, which lead to observation and knowledge. He is a constant student of nature, accumulates knowledge easily, retains it well, and uses it to the best advantage ; hence he talks about what he sees and knows, and with his fairly large Language he is able to communicate his knowledge with ease and copiousness.

His large perceptive faculties, with his large organs of Order, Calculation, Constructiveness, and Comparison, give him rare ability to organise, systematise, arrange, and look after complicated work. He is, in fact, in his element when he has complicated work to do. He follows the order of nature, and takes everything the easiest way possible. The whole field of labour is before him, and he maps it out easily, without confusion or conflict. Comparison and Human nature are very prominent, and have a powerful influence ; they give him the power to adapt one thing to another, to illustrate, and so present his thoughts in a practical, tangible, and useful form. He has superior powers to illustrate and bring every truth home to the listener ; and with his Human Nature and Benovolence very large he can say the most biting things and personal remarks without giving offence. He easily gains the confidence of others, and frequently contending parties will both leave their case in his hands. He is a first-rate judge of human nature generally ; except when others are dealing with him, he is too liable to trust and treat them as honest ; yet his knowledge of mankind will enable him to exert a great influence over others. The base of his brain is so large as to give great range of knowledge and practical talent, joined to great executive ability, force of character, physical courage, and family affection ; yet the middle range of faculties are not large. He is neither covetous nor cunning : he only wants to help along the cause in which he may be engaged. As a wealthy man, he would not be content without giving and doing for others.

He would forego many personal pleasures and comforts to increase his facilities, and promote the happiness of others. Secretiveness is not large enough to prevent him from telling the truth, and hating a lie. He glories in perfect frankness, and takes delight in calling things by their right names, and

saying things just as they are. His great physical and moral courage, united to his confidence in his cause, and in the Master he serves, makes him almost a stranger to fear and danger, and yet he has sufficient Cautiousness to foresee evils and avoid them.

He is rather high in the crown of the head, which aids to give independence of feeling, decision of character, presence of mind, determination, and perseverance. But the strength of his character, and that which calls out his other powers of body and mind so prominently, are his moral and religious feelings. He has been so long and so constantly under their influence that all his forces work in that direction. The whole coronal brain appears to be large and high, as shown in his photograph. He easily generates power in a moral and religious direction. If any of these faculties were naturally weak, their constant exercise has given them great activity, if not power. His Benevolence is very largely developed in his head, and has a powerful influence over his whole life and conduct. He takes pleasure in making personal sacrifices for the good of others.

His large Conscientiousness, Firmness, and Order, dispose him to make strict, if not rigid, rules for others to follow, especially those who take official position in his army; but as they pertain mostly to conduct, economy, and temperance, good is the result. General Booth is like a light set on a hill that cannot be hid: his deeds are before the world. Men may differ as to the course he is pursuing, but all must admit he is doing a wonderful work, and exerting a powerful influence over a certain class in the community.

Few have ever attempted so gigantic a work, or succeeded for so long a time together, where it is so complicated, and extended over so large an extent of country.

“General” Booth’s life is one that is so much part and parcel of the day in which we live, and his work is so generally known, that one need supplement the above sketch with no biographical particulars. It is necessary only to call to mind that some half dozen years ago his activity was confined almost exclusively to the East end of London, with perhaps a few “Salvation Army” ramifications here and there in the provinces. Now the “Army” has “centres” not only in every part of the metropolis and in almost every town of the kingdom, but it has enthusiastic branches in almost every part of the world—on the Continent, in America, in India, Australia, and indeed one hardly knows where.

L. N. F.

CONTRIBUTIONS TO THE MATHEMATICS OF
PHRÉNOLOGY.

BY JAMES STRATTON.

ARTICLE III.

LARGEST SIZES.

The MAXIMUM.—The highest point, on the scale of size, should not be so very difficult to determine, seeing that the largest heads are precisely those most likely to make their existence known among their fellow-men—to stamp their impress, good or bad, as the case may be, on the age in which they live.

CAUCASIAN.—The largest head of which I have had an opportunity of measuring the plaster cast is that of Joseph Hume, Esq., M.P. After making ample allowance for hair, the cast gives a cubic measure above 210 inches. I have been told, by what I believe to be good authority, that Mr. Hume requires a hat of $8\frac{1}{8}$, and that Daniel O'Connell, Esq., the famous Irish M.P., requires a hat nearly the same size. If this be true, and if the ordinary portraits which we see of him be tolerably correct, his head is broad in more than the average proportion, and must, therefore, be about equal in size to that of Mr. Hume. Mr. O'Connell appears also to combine a peculiarity which I have rarely found in large heads, namely, a very active and enduring temperament. Napoleon Buonaparte was an extraordinary example of such a combination. In short, we may safely assume that 220 cubic inches is about the extreme limits of size which the healthy human head ever attains among the Caucasian race.

MONGOLIAN.—The largest head of this race which I have seen a measurement of, and whose history is known, is that of Tyloolick, an Esquimaux, who accompanied Captain Parry in one of his expeditions. The skull, according to Professor Tiedemann, measures 99 inches internal, hence the head must have been about 145 cubic inches. Eenooolooapik, a young Esquimaux chief, who accompanied Captain Penny in the whaling ship, St. Andrews, to this country, a year or two ago, has a head about the same size as his countryman just named.

AMERICAN ABORIGINES.—The largest head of this race, whose measurement and history I have seen, is the famous warrior and chief, "Black Hawk"—rather more than 165 inches.

ASIATIC.—The Rajah Rammohun Roy stands pre-eminent among the Asiatics known in this country for a head of great size, finely balanced. The cast we possess measures, after allowing for hair, above 185 inches.

MALAYAN.—Professor Tiedemann gives a male native of Huaheine, equal to 159 inches. We have no sketch of history, however, whereby to discover whether the head was healthy or not.

ETHIOPIAN.—The cast of the head of Eustache, the amiable and talented negro of St. Domingo—one of the finest specimens of human nature ever known—measures 155 inches. Professor Tiedemann gives a negro of Congo equal to 170 inches; but it is so far above the next highest specimen measured that, in the absence of a sketch of history, I do not venture to adopt its measure.

The following is a condensed view of the entire evidence connected with this department:

	AVERAGE.	AVERAGE RANGE.	EXTREME RANGE.
Caucasian.....	137	100 to 160	40 or less to 220
Mongolian	127	90 „ 140	40 „ 145
Malayan	126	98 „ 132	40 „ 159
Ethiopian	123	100 „ 139	40 „ 155
Amer. Aborig.....	122	93 „ 146	40 „ 165
Asiatic	119	95 „ 137	40 „ 185

It remains in this department to suggest a scale by the use of which the student will obtain definite ideas of what is meant by a “large head,” a small, a full, a moderate-sized head, &c. It fortunately happens that this is a very simple and easy part of the matter, inasmuch as we find it already in use all but complete.

The following scale which we are in the habit of using to designate size in our ordinary practice will, with the simplest possible addition, be admirably adapted to the purpose in view.

SCALE IN USE.

1	Idiocy.	12	Rather full.
2		13	Rather full or full.
3		14	Full.
4	Very small.	15	Full or rather large.
5	Very small or small.	16	Rather large.
6	Small.	17	Rather large or large.
7	Small or rather small.	18	Large.
8	Rather small.	19	Large or very large.
9	Rather small or moderate.	20	Very large.
10	Moderate.	21	Very large or extra large.
11	Moderate or rather full.	22	Extra large.

To designate the absolute size of the head it is only necessary to add a 0 to each number of the series, to represent the cubic inches, and the words, retained as they stand, have a definite mathematical meaning which cannot be misunderstood.

PROPOSED SCALE.

C. Inches.	C. Inches.
10	120 Rather full.
20	130 Rather full or full.
30 Idiocy.	140 Full.
40 and	150 Full or rather full.
50 Infancy.	160 Rather large.
60 Small.	170 Rather large or large.
70 Small or rather small.	180 Large.
80 Rather small.	190 Large or very large.
90 Rather small or moderate.	200 Very large.
100 Moderate.	210 Very large or extra large.
110 Moderate or rather full.	220 Extra large.

If it be admitted that the human head can be measured with the degree of precision which we have exemplified—that the degree of precision is sufficient for practical purposes, and that the mathematical value proposed to be given to the terms of the scale is warranted by a sufficient amount of evidence—it will farther be admitted that it is essential for the interests of science to retain the same meaning or value in the subsequent steps of estimating and recording the size of the different parts or cerebral organs; and that such can be done, with a degree of accuracy exactly proportioned to the skill or observing capabilities of the party using the scale.

EXAMPLE.—Given, a head of 140 cubic inches, in which five different degrees of size of organs are just perceptible, two above the medium or average size, and two below. The proper designation of size for the medium organs would obviously be 14, *i.e.*, "full." The next size above medium, if only just perceptibly larger to the eye of a *competent* observer, must be 15, "full or rather large," meaning thereby just equal to the organs in an accurately balanced head of 150 cubic inches. The largest organs in the given head will be 16, "rather large," or equal to an equally balanced head of 160 inches.

The next size below the medium would be 13, "moderate, or rather full," and the smallest would be 12, "moderate," equal to the organs in a truly balanced head of 120 cubic inches.

The same method might, of course, be adopted with heads of 100, 150, 160, or any other size, and whether the organs exhibited one, two, three, or more gradations of size above or below the medium.

It will be admitted that some such degree of accuracy as that referred to is exceedingly desirable—is attempted indeed by every observer, and necessarily so. With what success is another question, one on which doubts are, with good reason, entertained by many minds. And such doubts (whether well founded or otherwise) are not likely to be removed, but by estimating size in the practice of observation, with a much greater degree of mathematical precision than is commonly attempted. Whether such can be done or not, remains to be seen. It appears to me that it can be so; and I proceed to show in what way, only premising that the method to be submitted may neither be the only nor the best way. I merely offer it as useful, till a better appear.

MEASUREMENT OF PARTS.

After measuring the head as a whole, I propose then to measure that whole in four or five separate parts; and if the measurement of the parts can be executed with nearly as much accuracy as that of the whole, some important advantages will thereby be obtained. It will give us the means of checking or proving the accuracy of our measurements in cases where proof by other means cannot be conveniently obtained, as is most frequently the case with the living head. Again, by determining, with something like mathematical accuracy, the size of separate portions or distinct regions of the head, we furnish the eye with an aid or standard whereby to estimate the more minute subdivisions—the separate organs of each group.

The regions or compartments which it is proposed to measure separately are:

First, The Frontal region, or compartment of the intellectual faculties.

Second, The Coronal, or region of the superior sentiments.

Third, The Occipital, or region of the domestic feelings and inferior sentiments.

Fourth, The Lateral region, or aggressive group of organs.

The last named region is, in reality, two separate groups or portions, one on each side of the head, but, for the sake of simplicity, is spoken of here throughout as one. It is proposed to measure each region or portion just named as if it were formed like a pyramid—the apex dipping into the medulla oblongata, and the base being a specified part of the surface of the head or cranium. It is not, of course, meant to be understood that each portion is, strictly speaking, a cerebral

pyramid in natural structure, it being well known that all the fibres do not pass directly from the surface to the centre of the brain ; but the irregularities, if such they may be called, are supposed to be constant, and a pyramidal figure is that which, from anatomical and mathematical considerations, it appears proper to measure.

In determining the superficial space on the head, in other words, the base of pyramidal portions to be measured, it would obviously be impossible to adhere strictly to the outlines of the different regions or groups of organs which we are accustomed to contemplate in studying phrenology ; and even though it were quite practicable to determine the precise position of the outlines in every case, their irregular waving course would complicate the measurements far too much for practice. For our present purpose, however, it is not considered necessary to attempt to follow the precise phrenological outlines. It is believed that a sufficient approximation to accuracy is obtained if we measure the largest possible portion, or nearly so, in each region, to which a regular outline of surface can be easily and certainly found by observing anatomical points and lines—provided that the part measured always bears a proportional relation of size to the entire region. This is what I propose to do. The superficial space measured of each region will therefore be a parallelogram, more or less long, more or less broad, according to the measurements of each individual case, and always below the actual size of the phrenological group measured.

(The numbers refer to the plate, and points of measurement, described page 6.)

ANTERIOR.

Length	From	32	to	32
Breadth	From	22	„	13
Height	From	6	„	32

NOTE.—Breadth—From 22 to 13, and from 23 on one side to 35 on the other, are measurements so nearly uniform in most cases that, in practice, I generally prefer the latter, because the points are readily seen.

CORONAL.

Length	From	15	to	13
Breadth	From	19	„	19
Height	From	6	„	16

NOTE.—Length—From 15 to 13, and from 12 to 35 are usually the same, except in peculiar cases. The measure may therefore be taken *from* any point on the line joining 15 and 12, *to* any point on the line from 13 to 35, which obviously gives the truest average of the space indicated.

Breadth.—Avoid irregularities on the temporal ridge.

Height.—In most cases the calliper may be passed on line from 16 to near 35, touching the surface at all points.

LATERAL.

Length	From	2	to	9
Breadth	From	6	„	12
Height...	The average breadth of the head.			

NOTE.—The Lateral is really two parts, one on each side, and may be measured as such by taking one-sixth the height, calculating twice, and adding the products; but as only additional trouble would be gained, it is better to calculate the two as one, following the general rule.

POSTERIOR.

Length	From	1	to	15
Breadth	From	11	„	11
Height	From	6	„	3

NOTE.—Length—In most cases the calliper may be passed from near 12 on one side to the other, touching the surface at all points. It is, therefore, easy to avoid irregularities.

Height—avoid irregularities at 3, by measuring a little to one side.

Generally—avoid local irregularities by taking that which is most obviously the nearest average of the specified measurement.

RULE.—To find the cubic contents, multiply the *length* by the *breadth*, and the product by one-third the *height*.

Example. Lnth. Brdth. Hght. C. M. or nearest integer.

$$\text{Anterior} \dots 3.7 \times 2.7 \times \frac{4.5}{3} \quad (\text{i.e. } 1.5) = 14.985 \text{ say } 15 \text{ c. inches.}$$

$$\text{Coronal} \dots 4.4 \times 5.2 \times \frac{4.8}{3} \quad (\text{i.e. } 1.6) = 44.928 \text{ , , } 45 \text{ do.}$$

$$\text{Lateral} \dots 4.9 \times 3.4 \times \frac{5.4}{3} \quad (\text{i.e. } 1.8) = 29.988 \text{ , , } 30 \text{ do.}$$

$$\text{Posterior} \dots 5.2 \times 5. \times \frac{5.2}{3} \quad (\text{i.e. } 1.7) = 44.28 \text{ , , } 45 \text{ do.}$$

Aggregate.....134.881 say 135 c. inches.

The above measurement in regions, is that of a head which by proof gives 150 inches. The aggregate is, therefore, less than the proof by 15 inches, *i.e.*, equal to one-tenth part of the whole head.

The deficiency is, as I have already stated, intentional, and practically unavoidable. It is of no consequence, however, if it be very nearly equal on each part *in proportion to its size*.

The student may easily examine for himself by lining and pointing a cast or skull in the manner specified, page 7, and then measuring the specimen, when he will find that the *anterior* is measured slightly too short. The *coronal* is measured rather too narrow. The *lateral* does not include a part near the medulla oblongata; a protuberance, so to speak, on the lower side of the pyramid is not measured. The same remark applies to the *posterior* portion. I repeat, then, that each part is deficient, as nearly as can be, in proportion to its size, and that deficiency is a constant quantity, viz., one-tenth part. The correction is, therefore, so simple that it can be instantly made to any possible number within our range of calculation. Thus the preceding example is corrected as follows, and all others in the same way :

	Measured.	Add One-tenth.	Corrected.
Anterior	15 inches.	1·5	= 16·5 inches.
Coronal	45 "	4·5	= 49·5 "
Lateral	30 "	3·	= 33· "
Posterior	45 "	4·5	= 49·5 "
	—	—	—
	135	13·5	= 148·5 proof 150.

In practice, it simplifies the process very much to omit the correction in all the parts except the aggregate; and every useful purpose is answered when it is distinctly understood and recollects that the correction has to be made.

The proposed mode of measuring the head in parts is exemplified in a subsequent table, by the same list of specimen cases already given, pages 9 and 10.

The measurements of the different regions, the aggregates, corrections, and proofs, are inserted in successive columns. From these the accuracy, which it is not difficult to attain, may be judged of.

EQUALLY BALANCED HEADS.

To facilitate the comparison in the practice of observation and inference, one essential, among many necessary to be known, is the corresponding measurements of the same parts of "equally balanced" heads—that is, heads which exhibit a certain proportion in the relative size of parts, whatever the absolute size of the whole may be. Heads which are presumed to possess equal innate power, adaptation, or capability of mental manifestation in all the parts or organs, and to have no native tendency in any one particular direction more than another, except that which circumstances may impart, such heads are called "equally balanced"—meaning thereby, equal balance in the *capability* of the parts to execute the functions

assigned them in nature, though it may be very unequal in absolute size of parts, as we shall see presently.

Such heads are very rarely, perhaps never, seen complete in all parts; but, among the great mass of human beings many present a near approach to an equal balance (or what is supposed to be so) in some one or more parts of the head. To determine with certainty what is an equally balanced head will require very extensive observation and inference; but it is not so difficult to approximate the solution of the problem with a degree of accuracy that will be useful.

From the measurements of a large number of the best balanced heads I have seen, I am led to infer that the following are the proportions of the different regions measured in the manner above specified:

The *Anterior*, or intellectual region, is one-tenth part of cubic measure of the whole head.

The *Coronal* is equal to three times the Anterior, or three-tenths of the head.

The *Posterior* is equal to the Coronal.

The *Lateral* is equal to twice the Anterior, or two-tenths of the measure of the head.

Such, it appears to me, are the uniform proportions of an equally balanced head, measured in the way proposed.

EXAMPLES.

Size of Head.	Anterior, 1-tenth.	Coronal, 3-tenths.	Lateral, 2-tenths.	Poster, 3-tenths.	Sum.	Add 1-tenth.	Aggregate.
150	15	45	30	45	135	13.5	148.5
148	14.8	44.4	29.6	44.4	133.2	13.32	146.52
134	13.4	40.2	26.8	40.2	120.6	12.06	132.66
96	9.6	28.8	19.2	28.8	86.4	8.64	95.04
82.4	8.24	24.72	16.48	24.72	74.16	7.42	81.58

One of the many services for which we are indebted to the Edinburgh phrenologists, is the publishing, in 1829, of a Model Bust which, so far as I am able to judge from the best copy of it which I have seen, exhibits the proportions above stated in every particular. The size is 150 inches.

HAPPY COURTSHIP AND HAPPY MARRIAGE.

Last month Mr. L. N. Fowler delivered a lecture on the above subject at Aylesford, Kent. *The Maidstone and Kent County Standard* contained a full report of the same, from which we quote the following:—

The lecturer said: Unhappy courtships are based in selfishness or in ignorance. Some young men, in courtship, only

look after themselves. They should think of the other side. They were like the man "out west," who, when asked who he had married, said he had married forty thousand dollars, but he forgot the other name. Some men married for money; some married because they were lazy and wanted somebody to keep them; some married to spite somebody else. Adaptability was necessary in the marriage state. Marriage did not make everybody happy any more than riches, or power, or office did. Some people thought they had only to get married and they would be next door to heaven. Perhaps it was more likely they would get next door to the other place. Some got their ideas of marriage from reading love stories. He wished there were no such extravagant love stories in print. Referring to the responsibility imposed by marriage, the lecturer said it did a great deal for the character of a young man to throw responsibility upon him. Judicious thought before marriage would save a good deal of unpleasant thought after marriage. All marriages should be made with reference to fitness, adaptability, and surrounding circumstances. It was a narrow-minded man who thought he must have that one woman or nobody else. He was a sectarian deep down in the mire. Some kill the woman, and themselves afterwards. If they killed themselves first it wouldn't so much matter. If a young man could not get the woman he wanted, he should find somebody else to love. He did not say a young man should go round loving, just to see which he loved best; but he ought to be large-hearted enough to know that if his love was not accepted by one woman, there was no reason why his affections should not be touched by another. Some married people were unhappy because they had got the wrong one. As it was, when they were married they couldn't "swop off," so they ought to be very particular to get the right one. A positive and a negative, a flat and a sharp, would get along very well, but if they got two negatives they would not accomplish anything, and if they had two sharps they would be too sharp, and quarrel with each other. There was very little attraction between two positives and two negatives. [The Professor here illustrated his meaning by the aid of magnets and pieces of steel and iron.] In some men the love was there, but it was locked up. It wanted the magnet to draw it forth. He had known men to live till thirty or thirty-five without getting in love with any woman, and then, all at once, they got tremendously in love. If both the man and the woman were positives, one had better take the lead, and not both try to steer the ship. A man of a feminine cast of mind should marry a woman who is positive.

Never mind if she did give directions ; it was all in the family. Women had got more positive than they were fifty years ago. Then, woman was your humble servant. She isn't now "by considerable." The lecturer then dilated on the necessity of married people conforming to each other. Some had no genius to adapt themselves. Many a man might understand about machinery or about art, but let him get married and try his art in managing his wife, and uniting his family, and he would fail. Married people were sometimes too persistent and dictatorial, and insisted on having their way. This was particularly the case with men. The man said he wasn't going to be managed by a woman ; but he told them that the man who was managed by a woman was generally pretty well managed. Some put off marriage too long. They got too fixed in their ways to conform themselves to a new condition of things. A man made a great mistake when he married a young person from school, before she had finished her education. There were a good many coquettes in wedlock, which made family jars, instead of family joys. There were different kinds of love. A young man should not woo and coo to get a young woman in love with him. If he did he would have to keep it up after marriage, because if he didn't she would think he was wooing somebody else. If the young woman wanted a young man, she would have him ; if she didn't, he had better leave her alone. The object of courting was to make people acquainted with each other's objects and desires. After marriage, perhaps, one wanted to go to the beershop and the other to the prayer meeting. That made a difficulty. Perhaps the man thought his wife had enough religion for both of them, and that if she went to heaven she would drag him along. The religion that led people to quarrel was hardly worth having. The love of some young men did not much matter. One young man brought him three young ladies for him to decide which should be his wife. He (the lecturer) did not select any. He would not insult the young ladies by selecting one of them to be the wife of such a dolt as that. Another young man came to him with a young lady, and they had their heads examined. The young man asked him if she would do for a wife. He told him no, and asked him if he was in love with her. The young man said "Oh no ! I thought I'd get acquainted first." A few days afterwards he brought another young lady, and she wasn't suitable. In a few days he brought a third, and had his head and her's examined, as if he had never been there before. He (the lecturer) told the young man that the only fault the third young woman had was that she was too good for him. She was one of the most

perfect women he ever knew—almost an angel. A man brought him a photograph, which he said was the forty-second he had examined to see if he could get the right kind of wife. He looked at the photograph, and said to the young man, "Stop here; she's good enough; she's as good as you are." A man must appreciate wedlock, and adapt himself to wedlock before he could be happy in it. Many an old man and old woman, who have been married fifty or sixty years, love each other more than a couple who have only been married a week. The old man brings something home and puts it down, and doesn't say anything; presently the old woman finds it and is glad. The man who has been married a week takes something home, and says, "Here, my dear, I've brought you an apple home; aren't you glad? I think I ought to have a kiss for that." A certain young woman was told she had better not marry a certain young man as he was wild. She said she could manage him, she could tame him; and she did. That young man's brother was a very steady young man. No one need be afraid to marry him; but he married a wife who couldn't manage him, and he went wild. The wild young man was tamed because his wife knew how to manage him; the steady young man went wild because his wife did not know how to manage him. Matrimonial troubles generally began in little things. If one made all the money and the other squandered it there was sure to be unhappiness. One necessity for happy courtship was to have a full grown man, with the sign of a man, and a full grown woman. Courtship was not the business of boys and girls. Now-a-days, a little while after they got weaned, they were looking after a sweetheart. Another qualification was that the young man should be a manly man. A man should know himself before he went courting, and then he would know what he wanted. The lecturer spurned the idea that it was better to marry a man who had sown his wild oats. Young women, he said, marry a young man who has not sown any wild oats. A happy courtship should have honesty and equality to start upon. He once asked a young man why he did not marry a certain young lady. The man replied, "She is a splendid woman, I only wish I was fit to marry her; but she is a lady, and I am not her equal either in pocket or in brains." There was an honest man. That woman ultimately married a man without much money or brains, lived awhile with him, and they separated. If she had married the right man they would have gone on gloriously. A young man should be frank with a young woman. He should tell her what he was and what he wanted. Confidence should be the link holding two people

together. If a young woman says : " I like him, but—" then that "but" is enough ; that "but" will grow. How did they begin their courtship ? Whichever way it was, keep it up. Was the man polite before marriage, let him be polite afterwards ; was he liberal, let him keep it up. With regard to presents, his advice to young women was, " Don't take anything till you are married, and then take all you can get." A great point was that both should marry for the same object. If you don't respect a woman don't marry her. Married men were more successful than single men. Many said they could not afford to marry, but this was generally a wrong view. An old hen scratched as well for a dozen chickens as she could for herself. Health was another matter of great importance in wedlock. Two healthy persons, happily married, were almost as near heaven as it was possible to be in this world. Two persons having the same weaknesses or diseases should not marry. Two persons both having small bones, small frames, thin necks, and small noses should never marry. There ought to be at least one large nose in the family. A small nose could not have much breath, and without breath there could not be much soul. In proportion as a man gratified the greatest number of faculties, he would be happy in the married state. For instance, if a man was a musician and married a woman simply because she was a good singer, he might be happy as long as she could sing, but when she could sing no longer his happiness would be gone. Marriage was a mutual partnership for life, an equal exchange of all that goes to secure love and union, and an equal share of all the results of that union. People did not *happen* to be happy in wedlock. There was always a cause for happiness as well as a cause for misery. People should not marry what they did not like. If they did not like a drunkard, don't marry a drinker. There never was a drunkard yet but what he drank. That was a fact ; and he was once a temperate drinker, too. All the 60,000 drunkards in England only drank a little once. He should advise the young women to marry off all the teetotalers first, any way. If they didn't like tobacco they should not marry a smoker. Don't let them marry with the idea that they would reform their husbands after marriage ; if they did, he told them, they had got a job on hand. If a man wanted a woman to be better, let him thank her for being so good as she is, and kiss her twice over. Don't find fault with the dinner. Praise the good there is in it, and they would get a better one next day. Where two people loved, and took care of each other, they would both be happy. When both

loved their Creator more than they loved each other, they would be sure to be happy. The individuality of a woman should be recognised. The rights of a woman should be recognised. After some remarks on the relationship between parents and children, the lecturer strongly advocated a community of interest between man and wife. The more a woman was her husband's partner in business the better. Some men went over to the hotel, and had a mug of beer, in order to confer with a friend on business. If they sat down with their wives, and conferred over a cup of tea, they would get as much good. A wife should be treated as a sweetheart, friend, and partner. In conclusion, the lecturer said it was much better to be true and honest and start right, than to start wrong and try to get right afterwards.

THE EARLY DEVELOPMENT OF OUR CHILDREN.

The first thoughts upon the needs of our children consist in providing nourishing food and proper clothing for them. While the next thoughts which occupy our mind in relation to them consist in instruction and amusement combined. We naturally ask, first of all, what are the necessary and absolute requirements to meet these thoughts, and then we ask how near can they be met by the Kindergarten System? Taking for granted that the child has been properly cared for as regards food and clothing, it becomes our duty to think how it can begin to grow mentally and physically. The mind must have employment as well as the hands during the early years, and amusement can be so arranged that instruction can become closely akin to it. First of all then the child needs to have something to occupy it that comes within the sphere of its own little area, and be able to make a success of experience in whatever it does. Secondly, the child needs to be pointed out the way genially; not as though everything it did was an order or compulsion. Thirdly, the child needs freedom for thought and action. Many parents think it is incompatible with reason to expect to have discipline and freedom join hands; for their idea of freedom is unbiased free will and liberty to do just as they like. Mothers cannot think too much about the first years of babyhood, when the child is not supposed to show any intuitive sense or perception for things, and when it is considered to be at the unconscious period of life. In the fourth place it is necessary to secure happiness for the child in its early years, for we like to see the faces of our little ones beam with joy. Sunshine is as

needful to the toddler as it is to the seedling. The nursery should be one of the pleasantest rooms in the house. In the fifth place, the early instruction of the child does not need to be valuable as knowledge in any special department of study, only inasmuch as it furnishes means for leading it to observe, to think, and to express its ideas.

Now can we apply these needs to the Kindergarten system? In regard to amusement, the method of building with blocks, tablets, laying games, form laying with sticks and seeds are much used, and they prove to every family that has tried the Kindergarten teaching how much real enjoyment, pleasure, and pride a child has in bringing home neatly-made little ornaments, boxes, &c. Beads are used for counting and inventing patterns; either by threading them, or by pressing them into shape from wax. Baskets are woven of rushes, grasses, and straws; sometimes intermingled with ribbons. Forms perforated and sewn in coloured silks, mat-weaving practised with worsted on a wooden frame, with narrow ribbon, and in leather. Certain forms are folded from square and oblong pieces of paper. Card modeling is a charming resource for long winter evenings. Drawing, modeling in potters'-clay, wax, and dough is good. Playing with dolls should not be forgotten, and each child should learn to dress her own doll. It is also well, when possible, to have little kitchen utensils to play at cooking.

We think the second reason is easily reached; for the keynote of the Kindergarteners is gentleness and firmness. In no school do you see so much of the family life carried out as in theirs.

The Kindergarten deals with the first stages of development, and offers to the mind perceptions of things, and the heart presentiments. It does not deal so much with special studies as with personal facts and fundamental principles; and, finally, it appeals to mind and heart through the same exercises and objects, and touches both at once. It has always been a difficult problem to strike the balance between knowledge and power. The mind is not a sponge; nor is education the absorption of ideas. On the other hand, nothing is more dangerous than energy uncontrolled by knowledge. The mind like the stomach suffers from overloading, yet both need constant food. The test of healthy assimilation is increasing strength; and we know we are supplying the mind with the right kind and amount of food if we notice a gain in vigour and originality. The child's intense play is nature's effort to order the thronging impressions of the first years of life, and the Kindergarten simply follows nature in alternating recep-

tive and creative activities, and in constantly registering the results of perception in reproduction.

Thought is manifested by the teacher in giving to the child graduated work; all the play they indulge in has a motive. The effects of Kindergarten training in the increase of health, in the development of grace, and in the formation of habits of industry, are now readily acknowledged. The happy faces of the children under the Kindergarten system tend to show us that the complacent misery and self-satisfied despair which are the fashion of the day, have their roots in the peevish discontent and selfish exaction of a childhood untrained to work, unaccustomed to give early physical and moral training, and to protect them from forming bad habits. The things with which Kindergartens are occupied are not to be chosen for their value as knowledge, but as the means they furnish for leading them to observe and to think.

The Kindergarten takes the little seedling before it is developed into flower. It uses the energies instead of repressing them. It encourages activity instead of restraining it. It develops order instead of forcing it. It creates a healthy appetite for brain food, but does not cram. It works in harmony with the requirements and needs of children, instead of against them; and when studying the developments of Froebel's method of teaching, it is delightful to think how beautifully adapted his teaching is to the young. By his method he helps the ideas to shoot for themselves in a methodical way, and trains the feelings and inclinations by giving the child the power to act out freely his own characteristics. It is only by living with children that we can learn to understand them; and one can learn more from an hour spent in a Kindergarten school than from a carefully-prepared article.

The youngest child you can begin to discipline with such gentleness as to give no hard line of correction. We see in childhood, as in a wild flower compared with the cultivated plant, the simplest working of creation, before forethought or artifice has entered into it, and we see in all its simplicity a systematic growth from infancy to childhood, and so on up. So with nature's powers, as they are grafted and watered, and cultivated, they continue to come to greater perfection, and show more symmetry. Instruction is only worthy the name when it is methodical; and the infinite variety in nature and all created works shows us that regularity is compatible with universality of exercise and discipline, and that you can have regularity without severity, and freedom without unruliness; but you must have discipline that engenders hope, confidence, and ambition for the future of the child. Health, energy, and

ambition were predominant in those who have proved to be the world's greatest benefactors. They were taught the principles of self-denial, self-reliance, and unselfishness in early childhood. Enthusiasm and wild ambition has not been checked, only wisely led, in them ; it has been trained and directed, but never discouraged, always governed and watched, until self-confidence has led the way with prudence. How many there are who lack the latter ! as one writer expresses it. There is a large class of passive minds that glory in being nothing. It is their religion, their hope, their future, their all.

Follow out the doctrine of teaching your children that which they will practise when they become men and women, and above all understand and educate them phrenologically.

HOW MUCH TO EAT.

About the theory of diet I do not mean to say very much in this place. The theory of diet is a complicated thing, and by no means completely understood as yet. Authorities differ, or even quarrelsomely contradict each other ; and even for the physician it is a tedious thing to find his way through the labyrinth of theories and half-certainties in which he must study the contemporary doctrines of the dietetics.

Still there are some things which are certain, but ignorantly denied, and some things that are commonly accepted which are certainly false. About these facts and fallacies a few words will be in place ; and I will say a little about the history, the chemistry, or the commonplaces of the subject. It does not concern us to be reminded again that roast beef is nutritious, that a varied diet is the best, that the azotized substances contain three proximate elements, or that lentils were eaten by Pharaoh Necho. The following points will be found, I trust, more to our purpose :

I.—The amount of food required varies with the individual, and is greatly different in different cases. No set rule for the quantity can be given.

Fallacy I. That you can lay down a hard and fast rule, either by weight or measure, for the food of any human being or class of beings.

A popular British writer on hygiene writes as follows : " An adult man or woman ought never to take more than thirty ounces of mixed solid food in the day. Eighteen should be the minimum, and twenty-four, or one ounce per hour, the medium."

This is a truly beautiful rule. How remarkable that the "medium" diet for the adult human being should turn out to be just one ounce per hour! Piazzi Smyth found the English inch clearly demonstrated in his measurements of the Egyptian Pyramids; and now his countryman discovers an eternal fitness between the avoirdupois scale and the constitution of man. The English ounce is the fore-ordained unit of alimentation. Thus speaks the stubborn egotist and theorist. But let us ask what Nature, on the contrary, may require in the matter of our food supply. The following passage, which I quote from the late Dr. G. M. Beard, points out something of her "infinite variety" in the forces that we renew by means of the food we eat:

"Whoever proposes to apportion our diet by the scales, must first tell us just what and how many changes of tissue take place in the brain in every thought evolved, how much fuel is consumed for every process of reasoning, every heat of passion. He must keep an accurate record of every muscular contraction, count every beating of the heart, and every breath; every glance of the eye, and every change of the countenance, every sound that falls upon the ear. He must weigh the imagination in scales, and the emotions in a balance; he must gauge out very reveries and dreams. But when he has done all this, his duties have just begun; for except he know the secretions and excretions, the other gigantic labours would be valueless. He must measure the blood, and count the globules. He should know the product of every gland. He must collect and measure all the waste products of the body. He must know the condition of every molecule of the system, whether it is in a state of health or disease. And when he has arranged this side of the equation, there remains the task of completing it by reducing to their last analysis the elements of his food. . . It is manifest that unless a miracle were wrought to enable him to make his calculations, he must starve before he could prepare a single meal."

In other words, not only do no two persons require the same amount of food, but the same person does not require the same amount of food under different conditions or on different days. How much we require must be decided by the individual or by the physician, and partly by remembering the following considerations:

II.—Both an excessive diet and a meagre diet should be avoided.

Fallacy 2. That because you work better after a light meal than a hearty one, you should make it a rule to "leave off hungry."

In this country food is abundant and good, though it is often poorly and wastefully cooked. But we have few gluttons, because we have few people of sufficient leisure to cultivate gluttony; we shall have more as the community grows older, more leisurely, and more luxurious. But few of us are at present in danger of gluttony—except infants. Infants are great sufferers from enforced gluttony. They are generally stuffed, during the first year or two of their lives, with twice as much food as they can digest. But for the rest of the world, underfeeding is commoner than gluttony. For most of us the doctrine of generous diet is the true one.

The ignorant creed of Graham is still held by many—even by many who are in other matters intelligent. It finds expression in a recent book on physical education, published by one of the best-known houses in the country, in which the author declares that the proper food of man consists, "of vegetable and semi-animal substances which can be eaten with relish" raw. "Cooking, spicing, and freezing our food are, strictly speaking, abuses of our digestive organs."

This view is, of course, absolutely visionary, though it is held by a physician who ought to know better. Food is good in the ratio of its nutritiousness and its digestibility; and cooking improves it, and even "spicing and freezing" may improve it in both respects, and animal food in general is more nutritive and more digestible than vegetable food. A little more food, of whatever kind, is needed for the worker, whether with hands or nerves; a little less for the idler. Infants are fed hourly, when four or five times a day is enough; with larger children the opposite error is more frequent—that of not giving them enough, as at boarding-schools, where the scanty and poor diet is often very injurious to their growth and health. Many a dyspeptic is made at the boarding-school. Children will not overeat of plain food, but there is no dietetic crime that they will not commit with dainties.

For the adult his own experience and self-control must be the rule. He will get no good from the ounce-per-hour people; they and their rules are vanity and egotism. In health he can generally guide himself as to his diet. If he will not—and many a good liver and stout drinker will not—then the doctor will come seasonably, and will tell him what to eat, and how often, and how many ounces at a time; and so, in course of time, our patient will find out how much to eat—when it is just too late.—*Harper's Weekly.*

FIFINE AND HER FRIENDS;
AN ATTIC CRUSOE.

By CAVE NORTH.

CHAPTER XXXV.

RAUBVOGEL'S ADVERTISEMENT.

After having made friends with the Wirth, Leitner decided to write and see what could be done to make matters right with Annette. Having despatched his letter, he passed the next two days, if not in a state of positive anxiety, at least in one of comparative unrest. He felt that his fate hung on the reply Annette should feel disposed to vouchsafe him. His own feelings towards her were strong and deep—and, naturally, he thought, permanent. He had wooed her with but one object in view, and had looked forward with bright anticipations to that consummation of his wishes; now, those anticipations were overclouded, and it might be that the cloud arose, not so much from any act of his, as from the faintness or insincerity of Annette's regard for him. If it were so, she would not be the first maiden who had fancied she loved when, in truth, it was only pleasure at receiving attentions.

During the first day he was high in hope, encouraged the brightest visions, and built no end of Spanish castles. But on the second day, his castles that had been so high in the air, were low in the dust, and so were his hopes, like the little balloons that boys fly, and that rise so gaily, but which are overweighted with the dew. He had half promised to go in the evening to Schoenberg, but he felt so down-hearted that he thought it better to stay away than to go and give everybody a Benedickian toothache.

"Nay," said he within himself, "I will rather stay at home, and suck melancholy out of my pipe, write Wertherian sonnets, and moralize on—what shall I moralize on? Oh, if I had but some good, lugubrious companion, I could be right merrily melancholy to-night, and moralize on anything! I could—Come in! Mein Gott! the very wight for me! You are right welcome, mein lieber Herr Jaques—as welcome as rain to a parched land!"

"I thank you," replied Herzel, for it was he; "but why do you call me Herr Jaques?"

"Because you look as though you had premeditated melancholy, like that high-priest of the sad-faced fraternity."

"I do not deny the impeachment, and therefore I came to find you out, knowing you to be of the school of Democritus, and so good for melancholy."

"Then have you made a fruitless journey," replied Leitner, "for I am no longer of that sect, having eschewed its vanities, and gone over to the Heraclitians. I shall plant my garden with willows and cypresses, instead of with the vine and fig-tree, and write on the lintel of my door, 'Vanity of vanities!'"

"Then I have come to the right shop," replied the artist with a smile. "We will be desolate together, and compare our woes."

"Nay," replied Adolf, "that cannot be; for though I nurse my own woes with the sad pleasure of a mother nursing her idiot child, yet I could not hear another relate his sorrows without laughing."

"All the same will you be well met," said the other; "for then will you laugh away my melancholy!"

"But if you wish your melancholy to be laughed away you are not of my school, and I must eschew your company!"

"Prince of all that is contradictory!" replied the artist, "whether thy mood is to laugh or to cry, to curse or to pray, I am with thee!"

"Good, then," replied Leitner; "we will be of one college, whether the presiding genius be he of the broad grin, or he of the tearful eye. But first tell me the news!"

"By 'the news,' I suppose you mean the news of Fifine?"

"Well, yes, if you have no other; and I verily believe you have not."

"Why do you think so? Do you think, then, I am smitten like the rest of you?"

"Smitten!" cried Leitner, with a laugh. "I think thou art as deeply smitten as any ass-headed Bottom!"

"Do you think, then, it is asinine to be in love?"

"I think it is asinine to grow sick of it and lackadaisical. What does our poet say?—

' He who for the first time loves,
E'en though luckless, is a god;
But who thus a second time
Luckless loves—he is a fool!'"

"But suppose I have not been thus deified," said Herzl.

"I had as soon believe you had not been weaned!"

"By the same token, then, I take it that Annette is not your first love?"

"Not by a score."

"And yet have I not seen you as melancholy as a sick pigeon these three days?"

"True, and trebly foolish therefore; but now I have purged me of my sin, and I challenge you to be as gay as any Pantagruelian!"

"Tell me first," replied the artist, "how to apply your cure to my case, and I will not fail you in mirth!"

"In the first place remember that so long as our friend, the flautist, is above land or sea, Fifine, though husbandless, is no widow, and therefore neither to be wooed nor won."

"A very good salve for a sore heart, truly; but the mention of the flautist reminds me of a bit of news I have got for you, which I had quite forgotten, although it was one of the things which brought me hither."

The artist produced from his pocket, a copy of the *Kaiserstadt-Anzeiger*, and, putting his finger upon a marked advertisement, handed it to Adolf. The advertisement was as follows:—

"Your Future told; also Diseases, Dangers, etc., to be guarded against. Send a lock of hair, or an imprint of your hand on paper, with Ten silver groschen in stamps, to R., in the business-house Zum Heiligen Stadt (3rd floor), Langenstrasse."

"This is a precious discovery," said Leitner, after reading the document through carefully several times—"as precious as Thessalian ointment. We may be able to make a transformation with it."

"What kind of a transformation?" asked Herzl.

"Oh, keep cool!" replied Adolf; "we shall not be able to transform an unwedable widow into a weddable one; but we may be able to scare the husband into a running fit, if not into the grave, and so quit our little stage of a knave."

"Then you think it is the flautist?"

"I think it is either he or a confederate."

"Suppose we pay the fellow a visit, whoever he be," said the artist.

"That we will," responded Leitner; "but first of all I must transform myself a little, so as not to be known; you will do, as you are a stranger about here."

An old coat, and a false red beard, which Adolf had already at hand, speedily supplied the necessary disguise; and thus equipped, he took the artist's arm, and they proceeded together to the "Holy City," and mounted to the third floor, where, in response to their knock, they were presently admitted by Raubvogel. They were greatly disappointed not to see Goldwhistle, but nevertheless went about their business without evincing any surprise. Both presented their palms, and had their "futures" told. Leitner produced also a lock of hair of an old sweetheart, and listened with due attention to the vaticinatory rigmarole the fortune-teller was enabled to give utterance to about her after pressing the hair to his smooth, bald forehead. This done, both Leitner and Herzl paid and praised the charlatan so well for his horoscopy that he was thrown off his guard, and talked like a very gossip. While in this vein, a few judicious questions—put, as it were, in the most off-hand fashion—elicited the information that the horoscopist was not quite satisfied with his companion, who, he said, did not earn much, and had besides taken more and more of late to drinking.

"He was on a big thing," said the chatterer, with a knowing look,—"a very big thing, with heaps of money in it; but he did not open it to him as much as he might, seeing that he, with his talent for reading horoscopes, was chiefly paying the rent, and keeping the pot boiling. To-day, for instance, he had had to go out of town on business, and would not perhaps be back till morning; but if it had not been for his earnings, he could not have gone!"

All attempts, however, to get out of the fellow what this "big thing" was that his companion was after, utterly failed; and the two went away only half satisfied. When they came to sum up the results of their visit, it did not seem to be much they had gained; but some additional light was thrown on the subject when, the following morning, Leitner received a letter from Annette, in which, besides replying to his, she informed him that a strange man had that day been watching the house, who, from his height and general appearance, they took to be Fifine's husband. They might be mistaken, but his movements were so suspicious that they thought it

well to inform him. Her mother, however, deemed it best, on the whole, not to let her father know, as he would be so angry to think that anyone was spying on them, that he might be likely to create a disturbance.

"Very likely, indeed!" was Leitner's mental comment.

On his way out, Adolf stepped into Claus Bromm's to tell them of the flautist's latest freak. He at the same time narrated his and Herzl's visit to Raubvogel.

Claus was greatly amused at the narration. He agreed with Leitner that Goldwhistle going to Engelheim was a proof that they had thrown him off the track, although it showed that he did not credit Zerafine's representation that the object of his machinations had gone to England.

Bear followed Adolf to the door, and when out of hearing she asked him what news he had from Annette.

"It points," he replied, "to what all good comedies end in."

"Marriage?" guessed Bear.

"I'm afraid so," replied Adolf.

"Afraid! Why afraid?" asked Bear. "If it had been the other way, you might have been afraid!"

"So I should have been."

"Would you have her love without marrying her?"

"God forbid!"

"Then why should you be afraid?"

"Because whether one marries or not, one will have cause for regret."

CHAPTER XXXVI.

THE FLAUTIST TAKES HIMSELF OFF.

Some ten days after the incidents referred to in the last chapter, Herzl and Leitner decided to pay another visit to the fortune-teller. The reason of their doing so was this: after his visit to Engelheim, Leitner noticed Goldwhistle at his garret window as of old for two or three days, and then his visage was again conspicuous by its absence. Day after day passed without bringing it back, and at length it was deemed advisable to make an investigation into his movements. Again, therefore, Adolf put himself into his disguise, and accompanied Herzl to Raubvogel's den. They found the horoscopist in a state of great indignation. He had been robbed and betrayed. The flautist had, a week before, made an excuse to get him out of the house, and then, during his absence, had ransacked the place, and taken his overcoat, and the bit of money he had saved, amounting to between fifty and sixty gulden, and gone off. He was of opinion that he had left the country, as from inquiries he had made at the station, he found that a person of his description had taken a ticket to Cologne. He supposed he had gone to England, as some days before he left he had said he might ere long have to visit London.

"Unfortunately," he said, "he found this out too late to do any-

thing for his apprehension. But," continued Raubvogel, "I shall not forget the rascal ; and if he should ever return to Kaiserstadt, I shall make it warm for him ! I could have forgiven him if he had taken the money out of sheer need ; but I supplied him with almost everything he could want, and that without anything in return, except a promise to share when he should get the money he was after. But I'm afraid the whole thing was a swindle, and I hate a swindler !"

Thus—as in the greater affairs of the world—one swindler indignantly denounced another, between whom there is perhaps not a pin to choose.

The two friends took advantage of the horoscopist's fit of righteous indignation, which became the warmer the more he talked, to draw out of him all he knew about the flautist's antecedents. What he communicated has already been narrated ; hence, although it was news to the two young men, there is no need to repeat it.

As to what Goldwhistle's actual business in Kaiserstadt was they could get nothing from Raubvogel. He said he had been kept quite in the dark with reference thereto ; and the more they tried to elicit something from him the more impenetrable he became. In fact, they seemed so anxious to know his business that the horoscopist became suspicious, and then alarmed.

On leaving, Leitner and Herzl consulted together for a moment on the stairs, and then returned. Raubvogel stood aghast when he saw them enter and carefully close the door after them ; he expected nothing less than immediate arrest. Hitherto Herzl had been the spokesman, Leitner keeping discreetly in the background. The former now guarded the door while Leitner spoke. This was what he said :

"Don't be afraid, friend, we intend you no harm ; indeed, if you are willing to do us a good turn, we may be able to do a similar good to you."

"What is it you want ?" asked the fortune-teller. "I know nothing."

"What we want to know," continued Leitner, "is why your companion watched the Prediger-House so assiduously ? We have noticed that for weeks he or you," he added, looking keenly at the trembling bird of prey, "or both, were day and night at the little window there, and never took your eyes off the house."

"I !" exclaimed Raubvogel ; "you must be mistaken !"

"No, I am not," replied Adolf, taking off his whiskers.

The horoscopist fairly started with astonishment. Leitner laughed and said—

"I see you know me."

Raubvogel tried to smile, but it was a rueful effort.

"I never act off the square," he said, "but I get into trouble by it ; and yet if I act squarely and above board, nobody will have anything to do with me."

"Act squarely and above board with us, and you shall not lose," replied Leitner.

"Well, what do you want?"

"I want you to tell us what your friend—"

"He was no friend of mine!"

"Well then, your companion: tell us what his object was in watching the house so constantly, and you will find you will not get into trouble by so doing."

"All that I know," replied the horoscopist, without more ado, "was that he said he wanted to find out whether a certain young lady was in the house, or visited it; one that had been there, and suddenly disappeared. He said that a lot of money depended on it, and that if he got it we should share. That's every bit I know!"

"You are quite sure that is all?" questioned Adolf.

"Quite; if I knew more I would tell."

This was all they got by their visit. But before leaving, they calmed the poor fellow's fears by giving him two or three thalers, and telling him he should be well paid for anything he could find out about his quondam associate.

Several weeks now elapsed without the flautist being either seen or heard of, and as it was concluded that he had actually gone back to England, Fifine no longer felt under such restraint as she had hitherto been, and was able to go to and fro between the Prediger-House and the Schoenberg. She suggested going back to live with her adoptive parents, but that was considered by all to be unsafe for the present. She frequently, however, spent a day with them, and sometimes even passed the night in the house; still, her entrances and exits were always conducted with a certain amount of precaution, as though the danger were not altogether past. She continued to work at fan-painting, and under the tuition and guidance of Herzl, made great progress, so that she was able not only to provide all she wanted for herself, but to add considerably to the comforts of the Claus Bromm dwelling.

At first the Professor and Bear refused to accept any such assistance, but Fifine took the refusal so much to heart, saying that she could not feel herself to be truly their daughter, as she wished to do, unless they were willing to let her act a daughterly part, that they were obliged to yield.

Thus Christmas passed, and the new year was entered amid much festivity. Everybody was paying and returning visits. Annette and her mother, of course, had long since returned to Kaiserstadt, and all shadow of jealousy of Undine had passed away, never to return again. It was plain to everyone, even to Frau Nussbaum, with her higher sensitiveness to the family honour, that Leitner was fidelity itself; and Annette was so confident of her power over him, that she could allow him to go to Schoenberg without any great quakings of heart. There was something in her large, languishing, Nell Gwynne-like eyes, that stirred and attracted his powerful nature, when Fifine's more brilliant and spiritual orbs only excited his imagination; they were music and poetry to him; Annette's were love's delirium!

It was now generally understood that they were formally engaged, and that marriage would follow in due course.

"So you are going to wed the little Nussbaum," said Bleichroder to Adolf one evening when everybody was at Schoenberg ; and his "nowle" was "tottie of the must."

"Yes, all being well I shall, Doctor," replied the young man.

"Don't you think you will regret it?" replied the other.

"Yes, I daresay I shall ; but I should also regret it if I let her go, so it's about equal, is it not?"

"Yes, perhaps about equal. There's one thing, she is of a good healthy stock, and that's all in your favour."

"In what way, Doctor?"

"In this, of course : that you can feel that you will, in your offspring, be giving whole and honest men and women to the world."

"Oh, I see ! Well, that's some consolation," replied Leitner.

"Some consolation ! Beim Himmel ! I should think it was *the* consolation." We ought at least to take care that we bring children into the world as good as, if not better than, ourselves. We owe that much to the world—and to our children."

"Is not that a new doctrine, Doctor?" asked Adolf.

"It may be new to some people," replied Bleichroder ; but if I had my way I would make it the Twelfth Commandment. It is every human being's first duty to try to improve the world by bringing better men and women into it than he is himself ; and if he can't do that he should stand aside."

"I suppose that is why you never married, Doctor," said Leitner.

"Well, I certainly never yet saw the person with whom I felt impelled to go into partnership for the rearing of fools!"

"Is not that rather hard on marriage?"

"May be, a little ; but not so hard as on those who conceive themselves qualified to enter upon that business because they have got into just such a state as would least qualify them for any ordinary business. What do you say, Herr Professor ? (turning to Claus, who joined them at this point) ; but you are one of the school that believes matches are made in heaven !"

"Not Lucifers, certainly ; they are made elsewhere," replied Claus.

"But what was the argument?"

This led Bleichroder to enter into a long disquisition on his favourite subject, into which we need not follow him.

CHAPTER XXXVII.

IN THE ATTIC AGAIN.

A few days after the turn of the New Year, a small family party found itself beneath Claus Bromm's roof to celebrate that anniversary. There were Herr and Frau Schwarzbach, Herzl, Leitner, and Annette, Herr and Frau Nussbaum, and one or two others. It proved quite a pleasant affair. Claus was in his brightest and happiest vein. The Twelve Apostles were brought out of durance to grace the occasion, and Claus told his story about them with special gusto, and as there were many there who had not heard it before, it caused much amusement.

After supper, Herr Schwarzbach, who had Fifine by his side, whispered to her that he wished her to show him the garret where she had spent her solitary Lenten moon. Some one overheard the proposition, and asked to be of the party; then all chimed in that they too would see the famous attic. A procession was therefore formed, and the ascent made, some of the stouter ones finding it necessary to make frequent halts by the way to take breath. Beauty, who seemed to quite understand the joke, made so light of the climb that he ran up and down several times, and uttered in front of the slower pilgrims his peculiar low ululation, as though half laughing at, and half reproaching them for their tardiness. At length all were at the top, and Zerafine having produced the key, the lowly domicile was entered.

Herr Schwarzbach viewed the rooms, standing in the doorway communicating between the two, and then gave it as his opinion that it was not an elegant apartment. "Still," he said, "it might be greatly improved with a little of our friend Herzl's decorative ability expended upon it."

When they were downstairs again, Fifine said to Herr Schwarzbach—

"I shall take your hint about my rooms upstairs—for I always look upon them as mine—and furnish and adorn them a little, and then if I should need to go into hiding again, they will be ready."

"I should if I were you," he replied; "and, moreover, I should provision the garrison to stand a siege, so that you may not have to depend upon the chance supplies of a dog commissariat."

"What would you put in them?" said Fifine: "some goats and barn-door fowl?"

"No, I would have some canned meat and fruit, with a plentiful supply of fuel and lights. Then I think I should have in some tins of fish—lobsters, for instance, and oysters. 'Tis a great comfort to be able to have fish for breakfast."

"Well," said Fifine, "I shall take your advice, and when I have laid in my stores you must promise to come and test their quality."

"Oh, that I will, with pleasure."

"I believe those two are plotting again," said Bleichroder.

"That we are," replied Fifine. "And I promise you we shall keep our secret too, for the present at least."

Fifine lost no time in putting her scheme into effect. On the very next day she communicated her intention to Claus, and under his direction the rooms were thoroughly cleaned, repaired, and repainted. Then they were neatly but inexpensively furnished, chiefly in the style of a German burgher family of a hundred years ago. The effect was very quaint and pretty, and all who saw the rooms praised Fifine's taste, except Frau Nussbaum, who would have preferred to see something a little more *recherché*, as she expressed it. The Wirth, on the contrary, who liked to show in public that he had tastes and opinions quite at variance with those of his wife, said that for his part he liked everything about the rooms, and would wish to have nothing altered in the least.

"I commend your taste for two things," he said to Fifine: "in the first place because you have chosen a style which is quite German, and in the second place because you have chosen the old style in preference to the new."

"Then I'm afraid," replied Fifine, "if I tell you that I did not choose the furniture either because it is German or because it is old, but simply because it suits a mood of mind, you will give me less credit for taste than for whim. But such, nevertheless, is the case. My "Lenten moon"—as Herr Schwarzbach calls my imprisonment—had the effect of creating a mental mood, or I might say a colour of thought, which I do not wish to lose, and which it seemed to me would be best preserved by surroundings of a cold and sombre description; and so I hit upon this style by seeing some dark-coloured high-backed chairs in Her Schweiff's shop."

"But what mood of mind—if I may ask," said the Gastwirth—"can a young lady wish to cultivate that requires her to be surrounded by cold and sombre furniture? Is it, may be, the penitential mood?" he added, with a smile.

"Not exactly, Herr Nussbaum," replied Fifine. "But would there be anything wrong in a young lady cultivating a penitential mood?"

"By no means, if she had reason to do so," replied the Wirth, with a bow and a smile.

By being so quick about establishing her new house, Fifine quite disconcerted Herzl, who had no sooner heard Herr Schwarzbach's hint about the rooms than he resolved to put the idea into execution himself, and at once began to plan the furnishing and adorning of them. He was obliged to leave town for a few days, but when he returned he brought with him in his note-book sketches of the rooms as he would arrange and adorn them. His plan was to hire the apartment, and make a studio of it, to have everything in perfect style.

His first idea was to make it a *bijou* attic lodging, and present it to Fifine. Second thoughts, however, told him that Fifine would not—or indeed could not—accept the gift. Then he thought he would make a studio of it for himself; but even then the notion of making it in some way a retreat for Fifine coloured his plans.

The fact is that the artist had become so enamoured of Fifine that the thought of her began to colour more than his plans about the furbishing up of the garret—began, indeed, to colour his plans of life. Ever since the night of her translation to Schoenberg, he had been a changed man. He himself said the change began some time earlier, as though the shadow of the coming trial and awakening had been cast upon him. And who shall say that it may not have been so? Stranger things than that happen betwixt earth and heaven!

However, be that as it may, the change after that meeting was sudden and deep. Life was no longer the smooth, calm thing it had been. Compared with the past, life's stream was as an ocean to a placid river. Before, its voice had been deep and mystic; now it was wild, incoherent, wonderful. Before, it had suggested a floating

away as with a calm, wistful longing—not altogether sad nor yet joyous; now there seemed fret and turmoil, tempest and trance, a deeper sorrow commensurate with a higher joy. Bleichroder would have said it all came about through a changed physiological condition.

Whatever it was, Herzl struggled against the change. He knew how hopeless was his passion so long as Fifine had a husband living. However, there are some states of mind that may be worn away but cannot be argued away, and a passion such as Herzl's is one of them. But he took himself vigorously in hand, and determined that he would keep his secret to himself. But in spite of all it was known, as we have seen, by Bleichroder, Leitner, and Frau Schwarzbach. Leitner soon perceived that he wished his reserve in this regard to be respected, and he respected it. Bleichroder never mentioned the subject from another motive.

When he returned to town, the artist's first thought was to put his plan about the apartment into execution, and he accordingly strolled down to the Prediger-House. He found only Zerafine within, but she told him that he would find the Professor at the top of the house with Fifine. Imagine his surprise when he entered the garret to see the transformation that had taken place: it could hardly have been greater if he had found it transmogrified into a Babylonian garden. Both Claus and Fifine gave him a hearty welcome, and claimed his admiration for their taste and expedition. He acknowledged that the effect was exceedingly neat, but added that he was grievously disappointed all the same. Asked for an explanation, he produced his sketches, and explained his intention. While yet in the midst of his explanation, the Professor was called away, and he and Fifine were left alone.

Up to the present moment, Fifine was ignorant of the artist's love for her, although not unaware of his great interest. He had, however, borne himself so well towards her, that she had no suspicion of the existence of a deeper feeling on his part than that of a chivalrous sympathy. It may seem strange that a woman should fail to see the evidences of a passion that were visible to two or three men, who are not generally credited with the same insight in such matters as the gentler sex. But the apparent anomaly is easily explained: Fifine had for some time been experiencing in her own person the troubles of the conquering flame which often has the effect of deadening some of the senses while it intensifies others. The ancients represented Love to be blind; but he is just as often deaf.

It may seem strange to some that a virtuous young woman, who had a husband living, should venture to allow tender thoughts of another to steal into her heart; yes, even though the said husband had wantonly killed all the love that had formerly been in store there for him. But with all our latter-day wisdom we have not yet learned to get the avenues of the heart in our own keeping. They are still beyond us. Oh, how simple life would be if we could but control our hearts; in other words, if we could but hold that bundle of

impulses and feelings that we name collectively the heart, as we hold a pack of cards, and deal with them coolly, and with calm forethought ! Of how much of its misery and suffering would life then be robbed ; but, alas, of how much of its beauty also ! The great battle-ground of the human heart would be a battle-ground no longer, on which contending hosts fight for truth and right ; but a chess-board merely, whereon the contest is for an idle victory only, the stakes being coins or counters, not life or death, misery or joy ; honour, wealth, leisure, golden hopes--or pain, penury, disease, and broken fortunes.

For several weeks a fierce conflict had been waging in Fifine's breast ; but she was no longer the weak child she had been aforetime, when passion and impulse had got the better of conscience and reason. If she was not a high-stepping heroine of the emancipated womanhood school, she was a woman on whom nature had not put her educating hand in vain. She had been compelled to learn in the school of tribulation what her parents and schoolmasters ought to have taught her, but had so utterly failed to do, that Providence had had to take up the book, and, truth to tell, the rod too ; but the book had been her own heart, and the rod her conscience. Therefore, though she knew this new-born love could not be rooted out incontinently like an ill weed, yet she determined that it could be held in check, and neither demean her in her own eyes nor in the eyes of others.

"I am sorry we have forestalled you," said Fifine, when Herzel had finished describing his designs, "but I will give up the rooms if you want them."

"Oh no," replied the artist, you must not give them up. I don't suppose I should have used them much if I had them. It was only a notion that took possession of my mind."

"I have taken them for no better reason," said Fifine ; "I presume they will see very little of me, unless, indeed, I have to undergo another exile," she added, with a smile, "which is hardly likely with all the kind friends I have now got."

"Certainly not," replied the artist ; "you must not, shall not undergo such suffering again while I—while we can help it!"

Herzel spoke these words with warmth ; he had been sitting opposite to her when he uttered them ; having done so, he rose and went to the window, and looked out upon the snow-covered streets and houses. Presently he turned round, and said, though without advancing any nearer :

"I wish you would make a contract with me !"

"What contract would you wish me to make ?" asked Fifine quietly.

"I wish you would promise to tell me if ever you are in any more difficulty, and let me help you."

"Don't you think my adoptive father, the Professor, would be the proper person to tell my troubles to, and to ask help of ?" asked Fifine, with a smile.

"Perhaps so ; but I might be able to assist you when he could

not ; as a brother, for instance, can where a father cannot. I am so strong, and so idle, and so useless in the world, without kith or kin, that it would do me good to feel that there was some one I might be of use to, some one that would look to me for help, some one that was in some way attached to me."

As he uttered these words, he approached nearer to Fifine, who had risen from her seat, and was preparing to go downstairs ; when close to her he said with much feeling :

" I have never known, Fifine, what it is to have a sister or cousin ; I fear I shall never know what it is to have a wife or child : let me be something to you—brother or cousin ! "

" Ask the good Claus Bromm, who, I hear, is coming upstairs, if he will adopt you as his son, then naturally we shall be brother and sister," said Fifine, with a smile.

The Professor now joining them, the conversation was pursued no further, and they all presently descended.

CHAPTER XXXVIII.

THE ARTIST PROPOSES TO TRAVEL.

Time now advanced apace, and spring was near at hand, when an event happened which changed somewhat the calm current in which the life of the chief *dramatis personæ* of our story had for some time been flowing.

Gradually, and almost insensibly, the precautions which had been observed in Fifine's coming and going between the Prediger-House and Schoenberg had become relaxed, as though there was no longer the remotest fear of Goldwhistle's return, and she came and went, perlustrated the town and its environs, as if nothing had ever happened to make her afraid. Perhaps the thought she had expressed to Herzl had encouraged this temerity, and she really felt that with so many friends she need not fear persecution by her husband. Any way she showed no fear, and as we have said, passed to and fro with a feeling of perfect security. She divided her time betwixt her two homes to the contentment of all concerned, except it were Herzl, and he was sad, with a difference, whether near or absent.

After the conversation above reported, in the attic studio, the artist had never returned to the subject then discussed, and had been content to stand in a kind of distant cousinly relation to the object of his love. He enjoyed the frequent pleasure of her society, and tried to philosophise himself into the thought that this was best, and that, in fact, if there had been no obstacle to his marriage with her, that relation would have been less conducive to their mutual happiness, could he but get himself to think so. But there was the rub ! He tried to strengthen himself by reading all that had been written on the infelicity of marriage : how, according to the comic poet, "a man who brings a wife into his house, brings into it with her either a good or an evil genius ;" and how, according to the prince of satirists, "the gods only know which it will be ;" how some of the greatest of men, as Socrates, Shakespeare, Milton, Cicero, Marcus

Antoninus (according to some), Euripedes, &c., were unhappy in their matrimonial relations; and finally, how some of the wisest had inveighed against it—but gone into it nevertheless!

He found a fine foil to his melancholy in Leitner, to whom he gradually and ungrudgingly confided his sorrows. He found comfort, too, in the Professor's society, which he saw much of—although the old gentleman's views did not always fit with his humour. For example, once when for his relief he had taken up the cue of railing against marriage, Claus remarked that, in spite of all drawbacks, marriage was the way of nature, and of the wise. “You may run from it as an evil,” he added, “but you fall into another as bad or worse; ‘Dum vitant stulti vitium in contraria currunt.’”

“There is no question but you, at least, are a staunch advocate of marriage,” replied Herzl.

“As a rule, certainly, and of early marriages when prudent; but I do not approve of hot, head-over-heel marriages, or, in other words, of those contracted in haste in consequence of what is called love at first sight. The love of such ‘matches’—as the English call them—is very liable to die out after the first flare and heat is expended. You will perhaps think I am somewhat inconsequential when I tell you that my marriage was such an one; but although I was married within a month of first setting eyes on the woman who became my wife, yet I had long known the family and its antecedents.”

It is a curious fact, quite characteristic of the man, however, that despite the constant tenor of the artist's thoughts, and his evident liking for Fifine's society, the Professor never suspected the real state of his feelings. Bear, who saw him seldom, had an inkling of the truth, but thought she might be mistaken. Once, when they were both at Schoenberg, and they had seen them dancing together, she told Claus what she thought; but he said she was mistaken, that Herzl, though fond of society, was a man so wrapped up in his art, that he would never divide his love between it and a wife; besides that he was so fixed on single-blessedness that he lost no opportunity of fortifying his mind against marriages by reading authorities against it.

“And yet,” he went on, “if there had been no obstacle, I can conceive of no two human beings better suited to each other in every way than those two. They remind me of the ancient fable that Zeus originally made human beings in pairs, like Siamese twins, but cut them in twain because they became too presumptuous: in their case, each half seems to have found its true counterpart; but with that grim irony which so often appears to rule in human affairs, it does not happen until a barrier has been interposed between them.”

Much of her time when “at home”—as she still called the Prediger House—Fifine spent in her lofty studio, although rarely alone, for either Claus or Bear, or both, were with her; or Annette brought up her work, and sat beside her; or still oftener little Fritz was present.

No one was more delighted to see her in her old home than the little cripple. It had been a sore trial to him when she was taken away from the house, and he rarely saw her, and then perhaps only

for a few brief moments. Now he spent hours with her, watching her do her fans or paint landscapes, or handling the pencil or brush himself. Sometimes he was allowed to go to the Schoenberg, where it interested him much to see Herzl at work, and to examine his pictures. The artist took an interest in him, and carefully watched his progress in drawing and painting, prophesying that if he lived he would make a great artist.

Once when Herzl called at the Prediger-House, he found Fifine and Fritz alone in the garret, the former busy on a small water-colour of the Market-Place, with its busy throng of buyers and sellers, its quaint stalls and quainter houses—a scene which had always a rare charm for her. Fritz had been working on the study of a head, but had become weary, and had laid aside his pencil. The artist took him upon his knee, and the two of them watched Fifine's deft fingers as she filled in and harmonised the colours.

"I wish," said Fritz, breaking the silence which had lasted for some time—"I wish, Herr Herzl, you would make a sketch of our house when the storks come back, they won't be long now; and when they are standing perched on the roof, or on the edge of their nest, I think there is nothing more picturesque in the whole town!"

"I believe you are right, Fritz," said the artist, in a half-absent tone; "and I would do it, but I fear I shall be away before the storks return."

The words seemed to strike with unusual distinctness on Fifine's ear, and she turned round quickly to see if his face bore out what his words expressed. A question was on her lips, but Fritz took it out of her mouth—

"Are you going away, then?" he asked.

"I am thinking of doing so," he replied.

"For long?"

"Yes, perhaps for a long time."

"That is new," said Fifine. "Is it not a sudden resolution you have come to?"

"It is somewhat," replied the artist, "although I have been thinking of it for some weeks. A friend has planned a visit to the United States for some time, but a favourable opportunity never offered itself until now; he proposes starting within ten days or a fortnight, and I have decided to join him. What is the matter, Fifine? Are you ill?"

These last words were said because the young woman suddenly became very pale.

"It is only a little faintness; I shall be all right directly, if you will open the window." The fresh air soon revived her.

"You have been applying yourself too closely to your work," said Herzl, leaning over her, and speaking with great tenderness.

"Perhaps I have," replied Fifine; "I will do no more to-day."

The same evening Leitner informed the Professor and Bear that their friend Herzl proposed making a somewhat protracted visit to the States.

On the morrow Herzel himself called, and Claus being busy with a pupil, and Bear otherwise engaged, Fifine had to see him alone.

"So you are really going to make this terrible journey?" said Fifine.

"Yes; but do you really think it so terrible?"

"I should think you would find it so, to leave your studio, your pictures, and your associations for so long."

"I daresay I shall find it hard: I know I shall often turn back with longing heart; but it cannot be helped."

"Why can't it be helped?" asked Fifine with affected gaiety.

"Because—" he was going to say: "I am making myself miserable over a state of things that can't be helped"—but he checked himself, and said: "I want a change; I want to go where I can get well shaken up, and strike some new ideas."

He waited for Fifine to reply, but as she did not, he went on:

"I suppose when I return I shall find everything changed. You, perhaps, will have gone away and—forgotten me!"

Fifine looked up at him, and said with a smile:

"Do you think then, Herr Herzel, that I am one to forget so readily?"

"No, I don't know that I do; but why should you remember me?"

"Have you not been one of the good friends who have stood by me in my troubles?" asked Fifine, without venturing to look up from her work. "Nay, more; have you not given me confidence to go on with my studies in art? If it were only from missing your advice and encouragement I shall remember you," she added.

"Well, there is some consolation in that."

"But are you so sure you will not forget me, your simple pupil? When you get over to America, you will be meeting with one of those beautiful American girls of whom one hears so much, and you will bring back your wife to show your friends what a prize you have got, and then you will return to spend the rest of your life in far-off California, or some other equally distant place!"

"Do you think, Fifine, that I shall fall in love with some American girl, and make her my wife?" said Herzel, placing his hand gently on hers.

"I hope you will," replied Undine, looking up at him with a smile; "you deserve one; and I hope her father may have silver mines."

The artist rose from his seat, and walked to the window, and Fifine knew it was to hide tears that threatened to overflow. She wiped away a couple of glistening drops from her own lids, and then laid aside her work, and sat down at the piano, saying it was a melancholy business talking about partings, and that she would play something merry to give a different direction to their thoughts. So she sang:—

"Robin came in to say us Goodbye,
With a tear in his voice, and a sob in his eye,
He really seemed just ready to cry—

Robin so sad,
Robin so sad.

“ Robin was going his fortune to seek,
 With his bonny brown hair, and his full ruddy cheek,
 You’d really think it would come in a week—
 Robin so gay,
 Robin so gay.

“ But a fair, ruddy lass, with a pair of blue e’en
 Had filled his heart full o’ the love o’ eighteen,
 And he was full loth to leave the young quean—
 Robin so sad,
 Robin so sad.

“ But scarce was he gone but a year and a day
 Ere he’d blown the blue eyes from his heart quite away,
 And driven instead a clean thousand to bay—
 Robin so spry,
 Robin so spry.

“ For, said he, a thousand a year it is plain,
 With a maiden attached, and for marriage full fain,
 Is not such a chance as a man should disdain—
 Robin so bold,
 Robin so bold.

“ When he brought his bride home, with a smile he then said :
 It is easier to woo where there is something to wed,
 And your love if not pride feels safer ahead—
 Robin so spry,
 Robin so spry.”

Before the song was finished, Claus entered, and directly after him Leitner, with whom the artist presently took his leave.

Fifine now thought it was best, all things considered, that she should spend most of her time at the Prediger-House until Herzel’s departure. For the next week or so, therefore, she only visited Schoenberg occasionally, and generally during the day, when there was the least likelihood of a tête-à-tête with Herzel. Hence, although she frequently saw him, it was always in the presence of others.

So the time passed until the eve of Herzel’s departure. He was to meet his friend at Strasburg, whence they were to proceed, viâ Paris, to London, and after a few days’ sight-seeing, to Liverpool, where they were to embark for New York. Frau Schwarzbach had invited Claus and Bear, Leitner and Annette, and several others, to see him for the last time before his departure, and to bid him farewell. Fifine went early in the afternoon, and as Providence or chance would have it, she met the artist in the way.

“ How fortunate,” he said ; “ I have been wanting to have a word with you for a week past, and was beginning to think the fates were against me. “ I wanted to ask you if you will write to me while I am away ? ”

Fifine thought a moment, and then replied that she thought she might promise to do so. “ But,” she added, “ I should not think you would want to be troubled with a lot of correspondence while you are travelling ; you will want to devote all your time to your new experiences, and the ideas they give you.”

“ The very way to fix them in the mind is to try to communicate them to others ; and to whom could I communicate my thoughts and

impressions better than to the one whom I esteem more than anyone else in the world ! ”

This confession, precious as it was to Undine, was just what she had been trying to stave off. It had come, however, and while it pleased, it shook her, so that for a moment she felt like to fall. Fortunately, they had reached the gate of Schoenberg, which she could take hold of for support. The artist said :

“ Will you not walk a little farther ? It is yet early ; and heaven only knows if we shall ever meet again after to-night ! ”

Fifine said : “ Oh, I trust we shall. When you return full of the new and strange things you have seen, we shall have many a chat together.”

“ Who knows where you will be then ? ” he answered. “ You may have gone back to England ; a thousand things may have happened.”

“ I know of nothing that will take me back to England. I feel that this is now my home, where my friends are—those who have saved me from death, perhaps worse ! ”

“ But you have said several times of late that you felt you ought to go and seek out your parents, and ask their forgiveness before they died,” answered Herzl ; “ that would take you from Kaiserstadt, and who knows if you would ever return ? ”

Fifine was silent a moment, and then said—

“ I certainly shall, all being well, try to find them out when spring comes : I feel that to be necessary for my own conscience sake ; but I can’t conceive of anything, not even their forgiveness, that will make me forget my parents by adoption. Whatever else duty may call me to do, it bids me never forsake them.”

“ You are a pearl among women ! ” exclaimed the artist.

“ I don’t know, Herr Herzl,” replied Fifine ; “ It would not be for the happiness of the world for all women to be weak, as I have been.”

“ Nay, it seems to me your very weakness proves your strength,” replied Herzl. “ How happy I should be if you would join your weakness to my strength ! ”

“ You must not talk so ; you know that cannot be.”

“ I know—I know ! ” replied the artist with emotion ; “ so much the worse for me. But tell me before we part, perhaps never to meet again—tell me for my comfort : If it had been possible, Fifine, might it have been ? ”

They had wandered a little way from the house during this conversation. Fifine now seemed to perceive for the first time that they were going too far, and proposed that they should return. They turned round, and had retraced their steps a little way in silence, when Herzl said—

“ Will you not answer me, Fifine ? ”

Fifine thought a moment, and then answered—

“ Is it well that we talk on these subjects ? Can it do any good ? ”

“ To me—yes,” replied Herzl. “ I have loved you since the first moment I set eyes upon you—nay, I think before ; for I saw you,

and was drawn towards you in my dreams when you were hiding away in your garret. Since that hour I have had no peace, no comfort, except in your company ; your voice, your smile, has been the only balm for my suffering ; and yet I am flying away from my physician to find health."

This was said in a low, earnest tone, the speaker meanwhile gazing upon the ground, as though he could not trust himself to look into the face of his companion. When he turned his eyes towards her, he saw she was weeping. He was now grieved that he should have allowed his feelings to carry him so far, and begged her to forgive him if he had pained her.

"I thought," she said, "to have been spared this."

"Nay, do not be angry," he pleaded. "I did not intend to do it ; I have struggled and struggled against it !"

"I am not angry," replied Fifine, in a subdued tone ; "but you do not know how painful it is to me ; doubly painful because, by my own fault, I have put myself out of the position either to receive or reciprocate a feeling which it would otherwise have been my greatest joy to do."

"Fifine ! then you love me ?" exclaimed Herzel.

"I have liked you ever since I have known you," replied Fifine ; "but now that you have drawn the confession from me, pray, for my sake, let this subject never be referred to between us again. I will think of you as an absent brother, and you must try to think of me as a sister, and as of one," she added with a faint smile, "who will rejoice to see you return from your tour a happy bridegroom, with a charming and happy bride."

"The former," said Herzel, "I will try to do ; but as to the latter that cannot be !"

"They had now reached the gate again, where they found Herr Schwarzbach with his dog.

"Ah, Herr Herzel !" he cried, "I was just looking for you ; there is a telegram inside for you."

The telegram proved to be from his friend, delaying their departure for a week, in consequence of some unforeseen difficulty.

(*To be continued.*)

Facts and Gossip.

THE discovery of an early human skull at Tilbury has been quickly followed by a similar find at Podhaba, near Prague. This latter was unearthed in a bed of chalk where the tusk of a mammoth had been dug out a few days previously, which gives an indication of its age. The characteristics of this skull are the extremely low forehead, and the excessive development of the ridges, in both of which points it resembles the famous Neanderthal skull, though its facial angle is yet lower.

DR. KOCH has forwarded from Calcutta his sixth report on the researches of the German Cholera Commission in India. The peculiar bacillus has apparently been christened the "Comma" bacillus, and all the *post-mortem* examinations yet made have resulted in its discovery only in cholera cases, and always in such cases. It has been found also that when the soiled linen of cholera patients is kept damp for twenty-four hours, the bacilli increase in an extraordinary manner. This seems to explain the apparently peculiar liability to cholera of the persons who wash such linen, which has been observed in many epidemics. Further experiments have given similar results when the contents of the intestines were spread over the damp surface of linen and other material, and particularly over the surface of moist earth. Within twenty-four hours the entire deposit has been literally converted into a thick mass of bacilli. Another important discovery is that the bacilli are killed more rapidly by drying than almost any other species of bacteria. As a rule three hours' dessication will completely extinguish their vitality. Their development appears to take place only in substances giving an alkaline reaction. A very small quantity of free acids, which would scarcely affect the development of other bacteria, decidedly checks that of the cholera bacillus. In normally acting stomachs they would for this reason be speedily destroyed, a fact which explains the want of success in experiments designed to reproduce cholera in animals by communicating the infection in food. The same fact, combined with the speedy death of the bacillus after dessication, also seems to explain the comparative immunity from the disease of persons attending cholera patients. In order that the bacilli may pass through the stomach and reach the intestines, there must be specially favourable conditions.

AN inquiry by the Pennsylvania Railroad Company into the colour-blindness of its employés has just been completed. Its results are significant and instructive. Dr. W. Thomson, the ophthalmologist who conducted the inquiry, found that the average number of train hands having defective colour sense was about 4·2 ; but those absolutely colour-blind and unable to distinguish between a grey and green, or a green and red flag were fully four per cent. An important conclusion arrived at by Dr. Thomson is that while the defect is generally congenital, it is sometimes caused by disease or injury. It is generally imagined that when a railway company has once weeded out its "colour-blind" signalmen, there is no cause for further anxiety on that score, and that those left may be safely entrusted with the duty of distinguishing signals. But if the commonest form of the disease—"red blindness"—may be acquired by those who were at one time fully able to stand the tests employed to ascertain their fitness for performance of their duties, it is clear that periodical inquiries into the condition of the eyesight of railway employés is an absolutely necessary precaution to insure their fitness for their posts. That more accidents are not caused by the colour-

blindness of signal-men is perhaps due to the fact, pointed out by Dr. Thomson, that those whose vision is thus defective, occasionally distinguish correctly between danger and safety flags, being guided by form and not by colour. It is, therefore, a question whether all danger-signals should not be recognizable by form as well as by colour.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

O. M. (Mayence).—The photograph of O. M. indicates a favourable development of vital power, animal life, ardour, and earnestness of mind, joined to a high degree of susceptibility. There is every indication of general health, and with care long life will be the result. She has a full share of spirit, resolution, and industry ; also economy, for she knows how to turn everything to account, and foresees what is wanted, and thus provides for the future. Has a favourable moral brain ; is respectful, obedient, mindful of superiors ; is religiously disposed, is kind, sympathetic, and readily renders service. Has versatility of mind, so can do different kinds of work equally well. Has capacity for thoroughly understanding rather than for memory of details. May at times be too impulsive, and allow her sympathies and affection to take the advantage. She may also at times be too confiding and trusting in others. With a suitable companion she would make a good wife and housekeeper.

G. B. (Leeds).—The photograph of G. B. indicates a very positive cast of mind. He is deliberative in planning, but very determined, tenacious, persevering, and almost unchanging in his will. He has very fixed opinions about religion, relies on his own judgment, and is quite sure others are mistaken if they differ from him. He speaks his mind strongly ; is given to philosophising ; has an elevated tone of mind, and sees much in the world that needs remedying ; is too philosophical for a business man ; is given to investigation, especially of abstract thoughts, and loses sight of many things taking place around him ; is unnecessarily anxious to do something to benefit mankind, and to stamp his own character on public opinion ; is more prolific in thoughts than words. The lad can easily be educated to a business requiring method and system ; is naturally quite gifted in understanding and comprehending principles ; will appear to advantage as a man where judgment and reason are required, but he must study punctuality, and be careful not to be too set in his own way. He must learn to wait on himself, and as far as possible supply his

wants. He had better study, and engage in some profession or business where he will have the control of it, like an engineer, architect, or a profession requiring a philosophical rather than scientific mind.

E. C. (Gloucester).—The photograph of this lady indicates an unusually elevated brain and tone of mind. The sentimental predominates. She is characterized for prudence, forethought, circumspection, and general stableness of character; is quite particular about her conduct and influence over others. She places a high value on her character; is reverentially and spiritually disposed; is a great observer; quickly gains knowledge and news; is an apt scholar, and has superior faculties to entertain company; uses words with great freedom, and always has something to talk about. Is amiable in disposition; lacking in force and destructiveness; cannot bear to see a kitten killed, or severity inflicted. If she should ever forget herself so as to be severe in speech, it is as far as her severity goes. Is pleasant in manner, but not given to fun-making. Is more interested in intellectual and moral subjects than any others. Is rather remarkable for the strength and purity of her attachments, but equally particular not to commit herself to the gentlemen in love matters.

HARRY.—The likeness of "Harry" indicates the highest degree of the nervous temperament, with a deficiency of the vital; he has too much brain and nerve. It would be excellent if he could go to sea about three years, where there is no opportunity for intellectual culture. Care will be necessary for his health in order to live long; not that he is diseased, but he spends vital energy too fast; though his brain is in every way fitted for a scholar, to learn language, philosophy, and mathematics. Has great gifts in talking; is very fond of music; very inquisitive, and wants to know the whole of everything; expects to be spoken to in company as much as any one else; is quite alive to new ideas; can make a lawyer, preacher, or teacher.

T. G.—The power of T. G. appears to be connected with the brain. He is not particularly adapted to physical labour, for he tires rather easily. His pleasure is in study or art; is fond of experiments and observing; is decidedly original in his thoughts. He is very particular in having others wait on him; cannot take jokes well; does not imitate others well; is rather too sympathetic, quite diffident, respectful, and more obedient than lads generally are. He is scarcely forcible and executive enough; should cultivate sociability, and make himself more at ease in society, and learn to take and give jokes. He had better study to get an education, and get his living by study.

A. J. C. (Usk).—Is very active, earnest, wide-awake, and never satisfied, for what he knows makes him want to know more. He will be passionately fond of music, whether he succeeds in the study and practice of it or no. He is very precise and particular about anything done for him. He has a superior faculty for chemistry, electricity, telephony, or for mechanical movement, general history,

and travels. He will want to come in contact with active society, and be one of the busy men. He had better give his attention to science, especially chemistry, electricity, and mechanical movements; or else be interested in education or politics.

R. M. (Darlington).—You are constitutionally a worker ; you cannot be idle ; are more in danger of overdoing than not doing enough, and your work will multiply on your hands. You derive your character from the masculine side of the house, perhaps from two or three generations back. You are characterized for having a distinct individuality peculiar to yourself. You are prepared to take responsibilities, to rely on yourself, to guide other persons, and to be mistress. You have very little, if any, vanity. You do not care for ceremony and general fashionable etiquette. You come straight at things, and live a true, simple life, not given to self-condemnation or severe criticism on the motives of others. You believe in a God of mercy rather than of revenge, and are liberal in your theological views, but are tenacious of your opinions ; are wide awake to what is going on, and you have a strong critical intuitive cast of intellect. Have a good sense of sound, and delight in good music and speaking. If you had been a man, you would have taken some public responsibility on yourself. As a woman you are better adapted to lead others than to be led. You have talent to teach, to be at the head of a business, or some institution.

D. A. K. (Dumfries).—This young lady is specially ambitious, and that ambition is of an intellectual and moral type. She would prefer to be distinguished in some public capacity where she can help to mould the character of others. She can work, but would prefer to study, and would also prefer a professor or public man for a husband better than a merchant or farmer. Is rather too thoughtful, and given to reading too much ; not particularly perceptive and knowing, hence not adapted to details. She has taste, imagination, scope of mind, and power to design and draw ; has aspiration and ambition to be a writer. Her moral brain is favourably represented. If a man, she would devote herself to theology more than anything else. She may not be proud or haughty, but she will get the credit because she is ambitious. She is demonstrative in her attachments, and strong in her dislikes and likes ; is generally circumspect as to conduct, and the tone of her mind is elevated. She had better pursue some special subject with the idea of teaching or taking some position requiring an education and a public spirit.

T. G.—You have a healthy but not powerful constitution. You will probably live to be old because you will take care of yourself, but you will not do to go out to the Soudan campaign. You have too light hair, eyes, and skin, and not enough arterial blood. You are best adapted to some sphere of life requiring mind rather than bodily strength. You have all the elements of refinement of mind and elevation of feeling. You partake of the nature of your mother,

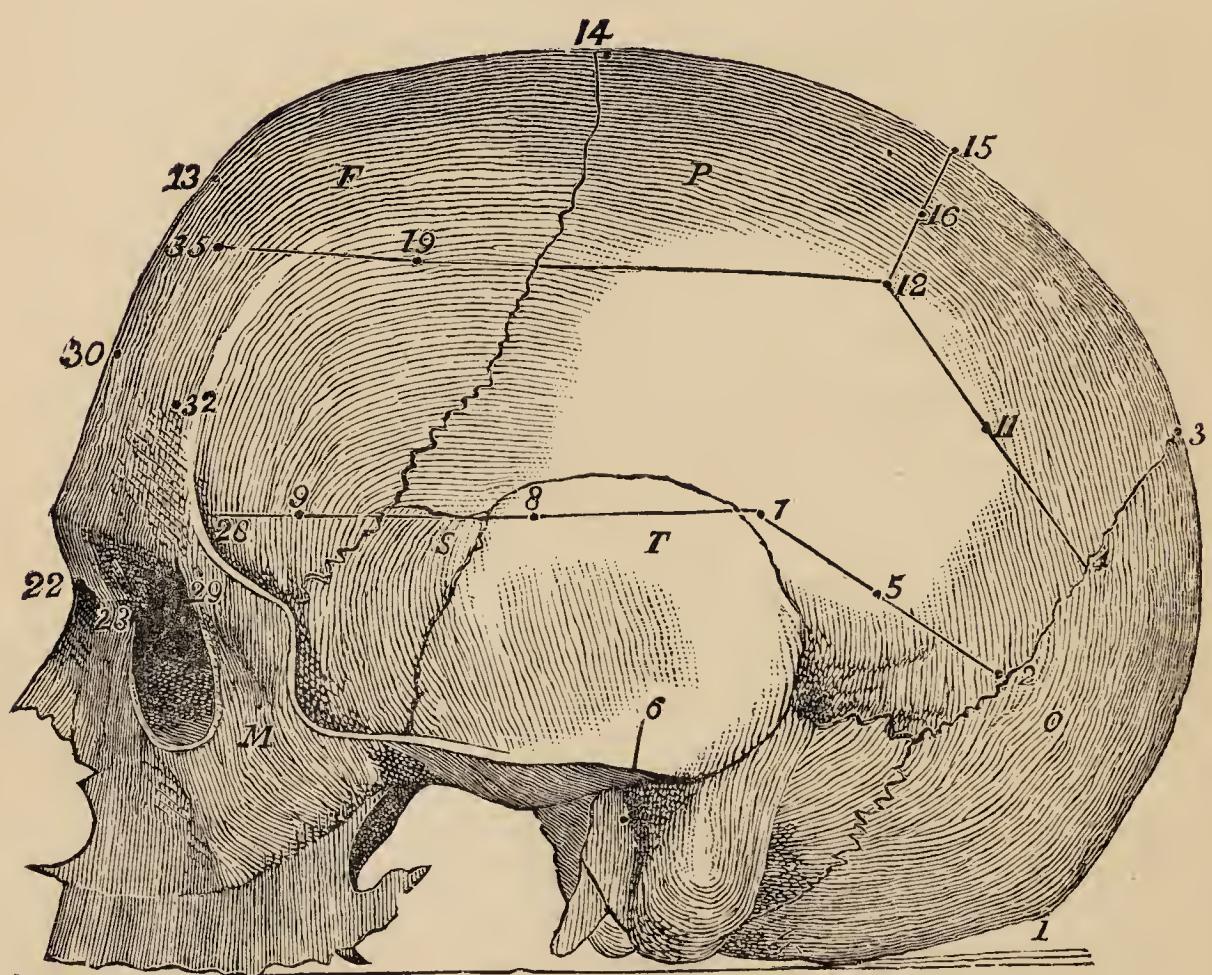
and you appreciate female society, and are at home in it ; are genial in disposition, domestic in feeling, fond of children, and all things tender and delicate ; hence you are fond of flowers, works of art, and good oratory. You would succeed well in some labour of love where you could devote yourself to doing good and promote a high order of living. You have good common-sense talents. You are sagacious and intuitive, but rather short of energy, force, hardness, and pluck. You are adapted to making peace rather than war.

CICERO (Aberdare).—There is no indication of eccentricity or defect of organization. You are a fair specimen of a man. If you do your best you have capacities to make your mark in the world. You are wide awake to what is going on around you ; you are interested in the news of the day ; you have a great thirst for knowledge ; could succeed and even excel in some scientific or literary sphere of life, but your life must be one of action. You could sustain yourself in a profession, but a sedentary life at the desk would not be the best thing for you. You have an ear for music ; are fond of experiments ; could succeed as a civil engineer ; but of either of the professions, medicine first, ministry second, and lawyer third. Cultivate your speaking talent, for you have a favourable organization to instruct and entertain an audience. All you have to do is to peck away in the same line as General Grant did, and in time your end will be secured.

A. H. (Goole).—You have a high degree of the motive muscular temperament ; are comparatively strong, firm, and settled in your character, and uniform in disposition ; are rather slow to make up and appear your best. You require considerable motive to call you fully out, but you will bear testing, and will generally come off victorious. You are remarkable for your perceptive talent, your desire for positive knowledge, and your interest in the study of material science. You could have sustained yourself as a physician, chemist, naturalist, or agriculturalist. The ordinary duties of the household are not sufficient for you. You are very fond of experiments, and you delight to see any in operation, and tested. You have good powers to arrange and systematize ; you would be a good business woman, or judge of property. You can be relied upon for stability of character and honesty of purpose. You had better study and be something extra.

J. L.—You were born to an active, vigorous life, and are in your element when at work overcoming obstacles, but you would prefer not to take life or shed blood. You will not be content to live a quiet, irresponsible life. You are comparatively vigorous, stout, and strong in your feelings, positive in your character, firm, persevering, self-relying, and generally satisfied with what you do ; are fond of science, of experiments, and are quite anxious to perfect all you do ; are an earnest student of nature ; have an intuitive sense of truth, are sharp in your criticisms, and see great chances for reform in progressive movements.

MATHEMATICS OF PHRENOLOGY.

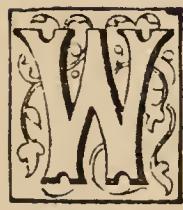


POINTS OF MEASUREMENT.

THE Phrenological Magazine.

MAY, 1884.

EDWARD PAYSON WESTON.



ESTON is more than an ordinary man. He has balance of power, and harmony of organization, which favour strength of mind and undivided will. All his powers of body and mind work together, and are in sympathy with each other. It is a universal labour, and a universal exhaustion, as well as a universal rest.

There appear to be no marked excesses or deficiencies. Taking his status as it is, he is an all-round man, and constitutionally strong, healthy, and rotund. He lives in every part of his nature, and has a wide-awake consciousness all round. His neck is large, muscular, and rather short, indicating strength and a free circulation. His nose and chin indicate tenacity and intensity, while his face as a whole is symmetrical, with a gradual taper to the chin, which favours a high rather than a low tone of mind. His head is elliptical in form, which indicates equality of mental power, and an equable distribution of mental forces.

His head is unusually broad, which indicates force, energy, pluck, and capacity to endure hardship; but he has great restraining powers in Cautiousness and Causality, which have a modifying influence. These, joined to Secretiveness, dispose him to be self-contained, and to keep his own affairs to himself. The width of his head at the temples indicates variety of talent, scope of mind, and great impressability to new ideas and truths, and these, joined to his large Imitation, give him versatility of manner, and ability to adapt himself to various kinds of society and labour, and enables him to act as if he was at home almost anywhere.

His high, broad forehead indicates that he has power to think and to deal in ideas and abstract principles. His talents are more theoretical than practical or scientific. He can remember thoughts better than facts, and as a speaker, can give off original matter better than he can apply ideas. He

is more bland in manner and youthful in disposition than he is sagacious and intuitive. He has a fair command of language, yet should be characterised for force and earnestness rather than scope or copiousness in speech.

His moral and religious brain appear to be fully developed, but not so much so as to predominate in character, unless under a high state of culture and excitement.

Hope and Benevolence appear to be the most developed, and probably have the most influence in his moral character.



He can write better than he can speak; can preach better than he can practise; can think better than he can observe; and can make money better than he can take care of it.

Weston is known in this country for his powers of endurance as a walker, and for his labours in the Temperance cause.

L. N. F.

THE sun does not wait for prayers and incantations before he rises, but straightway shines forth, and is hailed of all; so do not wait to do good for applause, and noise, and praise, but do it of your own desire; and, like the sun, you will be beloved.—*Epictetus*.

THE PSYCHOLOGICAL BASIS OF RELIGION.

IN attempting a comprehensive and stable adjustment of the issues involved in the existing controversy between a large class of inductive thinkers on the one hand, and the exponents of orthodox theology on the other, it is essential, by way of introduction, that certain facts should be thoroughly apprehended by the reader; and to this end, in order to put the reader in possession of a general definition of the term *religion*, I shall briefly state the latest results of historical investigation as appertaining to its resolution. As a general law of historical criticism it may be observed that the classification of the primitive religions is applicable to the classification of the primitive languages. In other words, although the Aryan race has developed three separate forms of religion, namely, Brahmanism and Buddhism by the Hindus, and Zoroastrianism by the Persians, there was a common Aryan religion before the separation of the Aryan races commenced, and this common religion is preserved very nearly in its primitive simplicity in the Vedas. In a similar manner, although the Semitic family has developed

THREE FORMS OF RELIGION,

namely, Mosaism, Mohammedanism (as an Arabic development), and the higher form dating from the life and death of Jesus, there was a common Semitic form previous to the dispersion of the Semitic races, which is represented in its primitive aspect by the book of Genesis, considered apart from the remainder of the Hebrew Scriptures. Again, the Turanian stock (Mongolian) may be regarded as having originated two religious systems, namely, the religion of Confutse, and that of Laotse. Each of these religions, eight in all, has its sacred code; and thus the student of comparative theology has to deal with eight religious codes—three of them in Sanskrit, Pâli, and Zend; three in Hebrew, Greek, and Arabic; and the remaining two in the monosyllabic Turanian. The important fact is, however, that an historical survey of the subject presents three ancient centres of religion, corresponding to three ancient centres of the languages; or, to render the idea in terms more intelligible to those who are not philologists, the three primitive religious centres were co-extensive with three ancient ethnological centres. To these primitive centres are traceable all the various forms of religious culture that have been since evolved. There seems, however, to have

been a still more primitive stock, that preceded the Aryan migrations in Europe, was superseded by the Semitic races in Asia Minor, and probably had its highest civilization in the ancient Egyptians and Phœnicians, to which the Greeks and Romans, the primitive Celts of France, and the Goths of Germany and Scandinavia were materially indebted, not for the radical and elementary ideas that entered into their religious systems, but for the special myths with which those elementary conceptions were interfused.

A GREAT PREHISTORIC RACE.

It is now conceded that the historical races of Europe did not generate the mythologies that bear their names, but, on the other hand, absorbed them in the process of absorbing and obliterating a pre-existing and homogeneous race that once occupied the whole continent of Europe. This race, which was no doubt identical with the ancient Egyptian, theologians have consented to style the Hamitic, and scientific men the prehistoric. At special centres it had risen to a kind of sensuous civilization. Along the Mediterranean it carried on a considerable trade with Egypt and Phœnicia, and waged not wholly unsuccessful wars with those mighty dynasties, whose names, carved in strange hieroglyphics, learned men have not yet completely deciphered. It was a race of city-builders, of hewers of mighty monuments in stone, and of erectors of vast mausolea. Its religion was ancestor-worship, the great generative principle of mythology. Lastly, in addition to the historical religions, comes fetishism, with its worship of the supernatural in the commoner objects of nature, a form prevalent among the African races of the lowest type, and among the outlying races of Polynesia, and one that differs very little from the ancient Turanian. It should be added that the ancient conception of the underworld, as it appears in Homer and Virgil under the designation of *Hades*, and in the Hebrew as *Sheol*, is an undoubted survival from the so-called prehistoric race. This conception in a form still more primeval than that of the Hebrew Scriptures or of classical literature, written on tablets of stone, was exhumed in the year 1873 by Mr. George Smith, of the British Museum, in the course of his Assyrian excavations. Thus, in the religion of that primitive race that once inhabited the whole known ancient world, and vanished or was absorbed during the early migrations of the existing historical stocks, occurs one of the great underlying convictions of the religious life, namely, the immortality of the soul and its destiny hereafter as a psychical entity; and if, as there is no rational

doubt, the ancient Egyptians belonged to this primitive stock, it had risen in other respects to the fundamental conceptions that underlie the more modern and distinctly historical aspects of religious culture, mixed, however, with a fetishism taking the distinctive direction of a worship of the generative energy of Nature, and particularly of Phallic emblems, of which, by the way, the modern custom of dancing round the May-pole is a curious survival.

PRIMITIVE RELIGIOUS CONCEPTIONS.

But to return to the three historic centres of religion. In the earlier Turanian or Mongoloid stock, previous to the reformation of Confutse, the student finds himself in the presence of a colourless and very unimaginative development, corresponding with the monosyllabic state of the Turanian languages, and consisting of the worship of a host of single spirits, synonymous with the most prominent energies of Nature, supposed to have a determining influence for good or evil on the life of man. Among the ancient Aryans these primitive conceptions or spirits of Nature were early agglutinated into a single spirit, and the resultant religion assumed the consistency of a worship of God in Nature ; that is to say, as revealing Himself through natural phenomena. This agglutinated form of the underlying spiritual potentiality corresponds with a group of languages in which the process of agglutination into polysyllabic words has already taken place. Finally, among the ancient Semitic races, including the Hebrews, occurs a development of an exceedingly individual type, as compared with the other two, which may be described as a worship of God in history, and as affecting the destinies of individuals and of races, rather than of God as revealing Himself in the phenomena of Nature. This is the fundamental idea expressed in the Hebrew *Jehovah*, the eternally revealing in life and history. But that there was a period of Semitic religious culture in which this conception had not yet been developed, and when the potencies of Nature were still leading ideas, is comprehensively evidenced by the word *Elohim*, the more primitive Semitic name, which may be rendered as the potentialities, and is unquestionably a plural form, that, so far from having arisen as a *pluralis excellentiæ*, is undoubtedly representative of the primitive agglutination of many spiritual potencies into one omnipotent potency which preceded the higher development of Hebrew religious literature. There are also in the earlier fragments of Genesis, and particularly in the legend of Eden, traces of a primeval

tree and serpent (Nature) worship that vanish with the higher religious development initiated by Abraham, who must be regarded as the father of the Semitic system.

But while, with Abraham, the prevalent Jewish conception of Jehovah as the eternally revealing in connection with the human spirit—that is to say, in history—assumed a permanent form, and Elohim, except as a very general designation, was superseded, the same agglutination took a somewhat different type with the Aryan races, as well as with the Turanian. This type was common to both stocks, and the infinite potentiality was thus in both primevally represented by the term *Sky-Father*, as an image perhaps, of the incessant and unutterable yearning of the human soul for a protecting and creating God. Thus, in the Vedas occurs the primitive invocation *Dyàus pitar*, which appears in the Greek as *Zeus pater*, and in the Latin as Jupiter (*Dies pater*). The Greek *skia* (sky), and *Theos* (God), the Sanskrit *deva* (God), and the English *sky* are all derivatives from one radical, which, as in Hebrew, primarily means the living. Our word *God*, identical with the German *Gott*, is an exception to this general law of Aryan philology, being a survival of the ancient *Woden*.

It is, however, unnecessary to pursue this aspect of the question beyond the few paragraphs essential to develop the general theory of the evolution of certain fundamental religious conceptions ; and I will only observe, in passing to the special considerations of the subject, that the true investigator of psychological phenomena will find in the Hebrew Jehovah a deeper and more subjective cognition of the Infinite in its relation to the human soul than in the Aryan and Turanian terms ; while, on the other hand, in the more objective and essential Nature-worship of the Aryans, he will not fail to discern the germ of that spirit of investigation and turn for inquiry to natural phenomena which first eventuates in the scientific method as developed by the Greeks, and, although temporarily overwhelmed by the wave of religious awakening set in motion by the spiritual energy of the final Hebrew impulse, has reappeared after many centuries in the modern passion for physical investigation. This remark is more especially true of the European Aryans than of the Hindus and Persians, in which the tendency has been to metaphysical speculation rather than to physical inquiry.

With this running review of the ethnological aspects of the various types of religion that have had their origin with the three great historic races, I have intended to put the reader in possession of the two leading doctrines that have been placed beyond dispute in the course of that brilliant series of

investigations, principally at the hands of German *savans*, which has resulted in establishing

A SCIENCE OF COMPARATIVE RELIGION,

as Cuvier and his coadjutors established the science of comparative anatomy. These doctrines are as follows :

1. That certain fundamental conceptions underlie all the various types that the religious instinct has historically developed. First among them stands the conception of an infinite spiritual potentiality, self-existent, and active in natural phenomena, which, however, presents in an agglutinated form the still more primitive conception of many spiritual potentialities, each presiding over special series of phenomena. As its natural correlative, the conception of the human soul as a spiritual entity, having a destiny after death and existing as a potential personality, or as absorbed into the Infinite, is co-extensive with the former. The relation and responsibility of the soul to the Infinite constitute the constantly recurring theme of all ancient systems of ethics, and all antique forms of faith. Parallel with these three, and more distinctly developed in the Semitic races, but common to the three, runs an anthropomorphic element that exhibits itself in prophecies and legends of incarnation, and is regarded by Rationalists as the myth-generating principle, and by Supernaturalists as the *ultima ratio* of miracles. Lastly, as the constant exponent of the preceding, the gift of inspiration is accorded by general consent to certain persons, under certain conditions ; and this constitutes an organizing element that eventuates in sanctuaries and oracles, prophets and priests. The psychological basis of these fundamental ideas will be investigated in its proper place. It is enough at this juncture, to observe that they are constant and universal before the period of agglutination has set in, and thus constitute a group of ideas co-extensive and co-eval with the human race.

2. The special forms under which these fundamental conceptions occur are determined by the special structural and psychical types of organization incident to the several trunk races, in the first instance, and are still further diversified by tribal and national agencies. This constitutes the morphological element of the science of religion, under which, while the fundamental conceptions are constant and invariable, the artistic structure with which they are interwoven is as various, as flexible, and supple as human nature itself. Similarly, in the science of philology, while certain fundamental conceptions underlie all languages, and are common to them, entering alike into the theory of word-building, and into the general

doctrines of grammar, the organic structure varies according to the trunk race, in the first instance, and according to the special derivatives of that race in the second; so that, intimately connected with each other, and interwoven in many of their special aspects from the beginning, the two sciences, comparative philology and comparative religion, are to the last mutually illustrative. Again, while in comparative anatomy, as applied to the nervous organization of the different races of men, certain fundamental points of nervous structure are constant, there are important points of difference in the more subordinate aspects, extending even to the internal structure of the brain, to the number and distribution of the lesser ganglia, and particularly to the distribution of the spinal nerves, as well as to the number and distribution of the cerebral convolutions; and these variations may be observed between races of equal culture and civilization, without going into the more emphatic contrasts of Hottentot with German, or Mongolian with European, popular with anatomists in the discussion of these questions. The point is, that, while certain leading religious conceptions are as large and as universal as humanity, strong morphological differences are exhibited in the organic religious structures developed by the different races, thus establishing a series of striking but superficial diversities, interpenetrated by one controlling and vital group of ideas.

(To be continued.)

MATTER AND SPIRIT.

" When Bishop Berkeley said
There was no matter and proved it—
'Twas no matter what he said,
And yet who can believe it."

DON JUAN (Canto II.)

Never having read the Bishop's work I am not able directly to confute it; but it strikes me that either the Bishop made use of a dexterous play of words, or else that he assumed that which he could not prove, for, Is there any spirit irrespective of, or unconnected with, matter?

The Bishop did not live to see that modern science can from matter produce spirit; or, in other words, a something that can hardly be called matter—viz., the electric and galvanic currents. Had he now lived he would have learnt that, by simple processes, we can produce subtle and rapid currents,

which in many respects act like the spirit or life of animals and human beings.

We daily speak with one another thousands of miles away by means of a current (or spirit) produced by the decomposition or disintegration of copper and zinc plates, acted on by sulphuric acid ; and, as long as those materials, and the conducting wires (a sort of nerves) last, we can carry on a conversation, and freely impart our ideas. Then again by friction acting on the electrical machine, by the rubbing of silk, or a brush, on a globe of glass, we can produce one of the most subtle of substances or elements—light.

So far, therefore, from admitting Bishop Berkeley's saying, that "there is no matter," I should, were he alive, call on him to prove whether there is any *spirit* irrespective of matter. Science shows that we can form spirit (so called) by the decomposition or commination of matter ; and what is more, the spirit, or current dies off if not supplied and replenished constantly by matter, in other words, by food ; and this food is but an interchange of particles of matter from one body or substance to another. The interchange, by means of the sulphuric acid, of the particles of the two plates of copper and zinc, causes the voltaic current, as will friction on a glass globe, that of electricity. But it may be answered that the voltaic current is a gross production, resulting from the decomposition of metals, and hardly to be assimilated to the spirit which moves man or animals ; but will that argument avail ? The voltaic current can, as Byron terms it, "set corpses grinning" (did so indeed but lately in the case of the man Prevost, executed in Paris, and operated on by electricity, or galvanism, after his head was off) ; whilst on the other hand, you can almost completely cut off sensation by anæsthetics, and yet live afterwards. Thus in fact you can regulate by matter, the making or cessation of spirit, so called.

Let us now, however, look into what is commonly supposed to be a very ethereal matter—light. What is light ? Is it a subtle spirit, a first principle ? or is it not rather a substance of great tenuity ? We usually look on light as a sort of natural primitive element; yet Newton long since divided the rays by a prism, showing some half-dozen colours or more, thereby proving that light itself is a complex substance or element. I use the word element only because such has been till lately, and perhaps still is, the designation of matters that have not yet apparently been divided or transformed ; but, in reality, light having been proved to be complex, cannot properly be called an element. But if light be not an element, what is it ? That it is a result of, at least, two factors down here upon

earth, is too obvious to require much illustration. Yet we will mention that from the primitive two pieces of wood to the flint and steel, and the late, and more complicated modern appliances for producing heat and light, the fact that *we*, here below, can produce light by material appliances, is sufficiently proved. But the subtle rays that reach us not only from our sun, but from the stars, whose distance is immeasurably greater from us than our sun, from whence do they originate? Are they the result of heat? In as far as we here below are concerned, the reply is, that we can have rays of light effecting considerable results, yet without any appreciable heat. You can, for instance, by means of the rays of some of the fixed stars transform the collodion, or mixture, on a photographic plate, so as, thereby, at once to bring out a picture: in fact, the rays of light must eat off some of the collodion. This result can hardly be called other than a material one. Then again, by electricity, the result of friction alone, we can produce a most brilliant light without heat, or at most, without apparent heat. Light, apart from heat, transforms the tissues of plants, and brings about the green colour of leaves. Whether or not light actually brings about in animals the capacity of perceiving its presence, in other words, if it assists in the formation of the eye, is not yet proved, although suggested by Darwin; but this much is known, that in underground lakes in Styria and elsewhere, certain fish are found without eyes, or with only a small cavity or spot to show where they ought to be; since from the absence of light eyes would be useless, they have either died out or have not been formed.

A. W. IVENS

CONTRIBUTIONS TO THE MATHEMATICS OF PHRENOLOGY.

BY JAMES STRATTON.

ARTICLE IV.

The following table shows the measurement of the regions of a series of models corresponding to each ten inches of the scale of size from 60 inches to 200: it will enable the student to compare, at sight, the measurements of any head with a model of a greater, a less, or a corresponding size:

MODELS.

Size.	Anter.	Cor.	Lateral.	Poster.	Sum.	Correc.	Aggregate.
60	6	18	12	18	54	6	60
70	7	21	14	21	63	7	70
80	8	24	16	24	72	8	80
90	9	27	18	27	81	9	90

Size.	Anter.	Cor.	Lateral.	Poster.	Sum.	Correc.	Aggregate.
100	10	30	20	33	90	10	100
110	11	33	22	33	99	11	110
120	12	36	24	36	108	12	120
130	13	39	26	39	117	13	130
140	14	42	28	42	126	14	140
150	15	45	30	45	135	15	150
160	16	48	32	48	144	16	160
170	17	51	34	51	153	17	170
180	18	54	36	54	162	18	180
190	19	57	38	57	171	19	190
200	20	60	40	60	180	20	200

Whether or not the proportions above stated are those of an equally balanced head, is a proposition which every head, cast, and cranium, whether of the living or the dead, that we have access to examine, and of which the history or manifestations are known, give their individual items of evidence for or against. It matters not either how near to, or how far from, a true balance the specimen may be, if the character and circumstances are clearly defined—the quota of evidence is equally conclusive. Neither does it matter what particular “type” the head may range under; the equal balance proportions are, so far as I have seen, still the same. It will readily be understood that every variety of size may exhibit the same shape and proportions, and that the same size may exhibit every variety of shape and proportions, but it may not be so readily admitted that the same size and proportions may be found in a considerable variety of shapes; yet so it appears to be. The long and narrow head, such as Mr. Goss; the short and square head, such as Dr. Gall, or Cordonnier; the round and high heads, such as Mr. King, and the common busts of Sir Walter Scott may, I believe often do, exhibit the same size in whole and proportion of parts as the type represented by the model bust.

MEASUREMENT OF REGIONS.

HEADS.	Proof.	Anter.	Coron.	Later.	Poeter.	Sum.	Add.	Entire.
Dr. Gall.....	174	20	54	34	46	154	15	169
Rev. Mr. M.	165	17	53	37	43	150	15	165
R. B. Sheridan ...	166	16	45	36	50	148	15	163
F. Cordonnier ...	180	19	49	41	52	161	16	177
Rajah Ra. Roy ...	190	19	64	38	45	166	17	183
French M.D.....	178	17	48	41	54	160	16	176
Mr. Goss	178	19	58	37	42	156	16	172
Robert Owen.....	155	15	43	34	44	136	14	150
Mr. King	160	19	45	34	45	143	14	157
Mr. Terry	160	16	44	34	48	142	14	156
Horace Smith ...	165	19	47	37	41	144	14	158

HEADS.		Proof.	Anter.	Coron.	Later.	Poster.	Sum.	Add.	Entire.
Ann Ross	114	11	28	25	37	101	10	111	
Clara Fisher	117	10	33	26	35	104	10	114	
Eustache	155	15	51	31	41	138	14	152	
MURDERERS.									
Hare	150	16	40	40	44	136	14	150	
Burke.....	148	14	42	38	41	135	13	148	
Allan of Aberdeen	148	15	35	37	46	132	13	145	
Adam of Inverness	145	14	35	32	48	129	13	142	
Greenacre	135	14	32	32	42	120	12	132	
Courvozier.....	180	16	46	43	55	160	16	176	
Linn, Parricide ...	180	18	46	46	46	159	16	175	
Thurtell	160	17	44	38	42	141	14	145	
M. M'Innes	135	13	31	36	39	119	12	131	
Dean.....	152	13	37	40	46	136	14	150	
Martin, Parricide	138	12	32	37	40	121	12	133	
SKULLS.									
Robert Burns ...	145	16	45	30	41	132	13	145	
Dr. Spurzheim ...	145	16	40	30	42	128	13	141	
La Fontaine	150	15	41	33	45	134	13	147	
Swift	130	13	36	32	35	115	12	127	
King Robt. Bruce	130	12	33	32	41	118	12	130	
Gen. Wurmser ...	115	12	30	28	32	102	10	112	
Mil. of Vienna ...	95	8	27	23	28	86	9	95	
CRIMINAL.									
Haggart	110	12	32	25	29	98	10	108	
Bellingham	120	13	30	28	36	107	11	118	
Nisbet	115	10	32	28	35	105	10	115	
Griffiths	95	6	23	24	32	85	8	93	
Tardy	130	13	34	32	37	116	12	128	
Chinese Assassin	112	9	31	24	35	99	10	109	
Agnes Clark	100	10	29	25	27	91	9	100	
Chatham Convict	130	12	35	34	35	116	12	128	
Buchannan	115	11	34	27	33	105	10	115	
Cung. Debtor ...	110	12	29	27	30	98	10	108	
French Soldier ...	100	8	26	23	34	91	9	100	
NATIONAL.									
Icelander	110	10	30	26	31	97	10	107	
Celt	120	12	31	28	35	106	11	117	
Swiss	115	10	34	26	31	101	10	111	
Ancient Greek ...	118	11	33	29	33	106	11	117	
Circassian	84	7	24	19	25	75	7	82	
Armenian	97	8	28	22	27	85	9	94	
Chinese	100	9	29	25	26	89	9	98	
Hindoo	105	8	31	22	32	95	9	104	
Burmese	90	8	25	23	26	82	8	90	
Ceylonese	88	7	26	21	24	78	8	86	

NATIONAL.	Proof.	Anter.	Coron.	Later.	Poster.	Sum.	Add.	Entire.
Native of Java ...	110	8	32	21	29	97	10	107
Papuan Islander ...	130	10	36	34	37	117	12	129
N. Holland Chief ...	112	10	30	25	35	100	10	110
N. S. W. Female ...	82	8	20	19	25	72	7	79
New Zealander ...	110	8	31	27	31	97	10	107
Moor	88	8	26	21	23	78	8	86
Peruvian	94	8	26	22	27	84	8	92
Negro	102	5½	26	25	33	90	9	99
Ashantee	112	9	30	24	35	98	10	108
Mozambique	120	11	32	29	34	106	11	117
Caffre Female ...	95	9	24	21	30	84	8	92
Esquimaux	92	8	24	22	29	83	8	91
Esquimaux	98	8	23	25	30	86	9	95
N. Americ. Indian ...	90	9	25	23	24	80	8	88
Carib	106	7	26	29	33	95	10	105
Peruvian	92	8	24	24	25	83	8	91
Brazil Indian.....	88	8	24	20	27	79	8	87
Chilese	98	8	27	23	30	88	9	97
Araucanian War. ...	105	9	24	26	24	93	9	102
Ceyl. T. T. Boy...	82	6	22	17	26	71	7	78

I will now take leave to assume that the reader is prepared to examine the cases quoted in the table of the measurements of regions, to compare these with each other, with model proportions of all sizes, with any other heads whatever, and with the published memoirs of the different individuals, and from the whole to judge how far the measurements given are in accordance, or otherwise, with each other, and with the known characters.

I may first remark, however, that it is the constant, or general features only, of the individual character, which will be made apparent in most cases by the measurements. When striking features of character turn upon one or two prominent or defective organs in one or more of the groups, such features will appear in the measurements so far only as the general size of the region is affected by the excess or deficiency.

EXAMPLE I.

		Intel.	Mor.	Aggr.	Dom.
Caucas.	Model, average size ...	137	14	41	27
	Dr. Gall	174	20	54	34
	Model, correspond. size	174	17	52	35

The first remarkable peculiarity of Dr. Gall's head is great size, 174 inches—the average of his race being 137. The second is the still greater size of the anterior, or intellectual region, 20 inches—the model proportion being 17 inches for the corresponding size, and 14 inches for the average. The

coronal region appears by the cast to be unequally balanced in some of the organs; but, upon the whole, it is slightly above the model proportions, and far above the average—being 54 to 41. The lateral is slightly below the model (34 to 35), and the posterior still farther below (46 to 52).

EXAMPLE II.

		Intel.	Mor.	Aggr.	Dom.	
Asiatic.	Model, average size ...	119	12	36	24	36
	Rajah Ramah. Roy ...	190	19	64	38	45
	Model, correspond. size	190	19	57	38	57

Rajah R. Roy, the famous Hindoo chief, was a philosopher and a philanthropist of the highest order. In size of head, he towers above his fellow-Asiatics like a giant among pygmies—he being 190, they averaging 119. The intellect is exactly the model size on the whole, but some of the organs are slightly above and others slightly below the equal balance. The coronal is far above the model size. Some of the organs are far below and others farther above the model balance,

EXAMPLE III.

		Intel.	Mor.	Aggr.	Dom.	
Caucas.	Model, average size ...	137	14	41	27	41
	Hare	150	16	40	40	44
	Model, correspond. size	150	15	45	30	45

Hare, the associate of the notorious Burke, it is allowed by all, was the more infamous of the two. Burke had the first offer to be admitted king's evidence, and he refused. Hare sacrificed his associate to save himself. His head is considerably above the average (150 to 137). The intellect is above the model proportion (16 to 15), and still farther above the average (16 to 14). The coronal is not only below the model (40 to 50), but even below the average (40 to 41). The aggressive is far above the model (40 to 30), and still farther above the average (40 to 27). The disproportion between the moral (5 below) and the aggressive (10 above) is 15 inches, being nearly the entire size of the intellect.

EXAMPLE IV.

		Intel.	Mor.	Aggr.	Dom.	
Ethiopian.	Model, aver. size	123	12	36	24	36
	Eustache	155	15	51	31	41
	Model, cor. size...	155	15·5	46·5	31	46·5

Eustache.—“No situation could be more unfavourable to virtuous conduct than that of Eustache when he was a slave, associated with slaves in a war of extermination against their masters; yet such was the preserving power of a high moral and intellectual organization, that he nobly discharged his

duty to both belligerents, and triumphed over every temptation."—*Mr. Coombe's System p. 776.* During an insurrection in the Island of St. Domingo, he was the means of saving the lives of more than 400 of the white population. In every situation in which he was placed he discharged his duty with unexampled industry and fidelity. The French Institute awarded to him the "Prize of Virtue," on the 9th of August, 1832, and the Government gave him a handsome annuity.

The head of Eustache is far above the Negro average, (155 to 123.) The anterior is equal to the model proportions. The coronal is above the model (51 to 46), and several of the organs are much farther above the equal balance.

Among the multitude of comparisons which will readily suggest themselves to the mind of the student, I shall only instance one more, viz.: instead of comparing the size of the different regions with each other, and with those of other heads, compare the different sizes of model, or equally balanced heads, which correspond with the separate regions of the individual heads, thus:

	Measurement of Regions.				Corresponding Size of Model Heads.			
	Intel.	Mor.	Aggr.	Dom.	Intel.	Mor.	Aggr.	Dom.
Dr. Gall ...	20	54	34	46	200	180	170	153
R. R. Roy...	19	64	38	45	190	210	190	150
Hare	16	40	40	44	160	130	210	145
Eustache ...	15	51	31	41	150	170	115	140
Linn	18	46	46	46	180	153	230	153
Greenacre ...	14	32	32	42	140	110	160	160

Here we see the anterior region of Dr. Gall's head is equal to the same part of a model of 200 inches. The coronal in R. R. Roy equals that in a model of 210. The lateral region of Linn is equal to the same region in a model head of 230 inches. Thus may the comparisons be varied to any extent, and in any way which may be deemed most appropriate to elucidate the concomitance of size and character.

It must be admitted, however, that we are not yet prepared to understand the full force or value of such comparisons, and indeed cannot be so, until it is known what degree of functional energy, or what amount of mental manifestation corresponds to given sizes of heads, regions, and organs under specified circumstances; the first essential step towards the solution of this problem, or rather series of problems, is to determine absolute size of parts with the necessary degree of accuracy.

From what has been stated regarding the measurement and proportions of parts, it will be obvious that the volume of each region, as ascertained in the manner specified, determines

its place on the scale of size or, in other words, gives the average size of the organs composing the group. Thus,

Anterior.—The cubic inches and the point on the scale are always the same.

EXAMPLES.

10 inches, moderate; 14, full; 16, rather large; 18, large.

Coronal.—The cubic inches divided by 3, gives the point on the scale.

EXAMPLES.

$42 \div 3 = 14$, full. $48 \div 3 = 16$, rather large.

Occipital same as the coronal.

Lateral.—The cubic inches divided by 2, gives the point on the scale.

EXAMPLES.

$20 \div 2 = 10$, moderate. $30 \div 2 = 15$, full, or rather large.

It remains for the eye to determine the size of the individual organs, guided throughout by the ascertained average, in retaining as nearly as possible the mathematical value of the terms used. This is to be done in the manner described, page 138, with this difference, that the absolute size of each region (instead of that of the head) is now to be taken as the basis of estimate and comparison.

HEALTH APHORISMS.

WHAT is health? It is the naturally complete and full action of the functions of the body and of the mind, and it is not only to be free from pain and weakness but to enjoy active life.

Some are going through the world without any love. That is a deformity. Some are without the power to think, they have not the capacity to think. That is a deformity. Some cannot put ideas together, cannot form plans, cannot work anything together, and can only do simple things.

There are a great many men in the world who are lacking in hope, in courage, in force of character; they are carried along by the force of other people, and a great many people in these various conditions in society exist because somebody else exists.

Some are on the anxious seat all the time. Never get on the anxious seat; it is not healthy to sit upon it.

Some men worry about their property; they have got so much money they cannot rest. Other men will get up in the

night, thinking they hear somebody in the house, and find it is the cat. If you want to get on quickly in this world, get off the anxious seat, because to get out of this world quickly is to fret and worry.

Some are very poor, but they revel in imaginary wealth. I know several people who are going to be rich; but it is better to be rich than to be expecting it.

If you are universally healthy from head to foot you are lucky; but very few know how to keep the health they have. When healthy we are able to gratify our various wants and desires, and the best way to gratify all wants and desires is to find health, and then we shall have healthy desires.

If you want to be healthy do something for somebody else, that is, help somebody; if a man is broken down in the road help him. You do not know how much good it does him and yourself.

We can always exert a healthy influence over others, if we are healthy ourselves, and health is scattered all over us.

Many a man fails in life because he is only strong enough to plan, but he is not strong enough to put into execution that plan; and some do not understand that they want the strength they have.

Morbid habits are unhealthy. If any man has a morbid habit, he ought to get rid of it, for he is a morbid man.

Suppose your child has got a habit of asking for everything it sees. It should be got off that habit as soon as possible.

What we want is a healthy race of human beings on the earth; and supposing this island did not contain a diseased person, it would be a greater power by a hundredfold than it is now.

It should be a special effort of legislative, educational, and religious effort to protect health, and legislators should have in view the promotion of health.

Every creature ought to be healthy, and they would if they lived as they ought. How much more comfortable health and perfection than disease and imperfection! We are as full of disease as ever the world was. There are causes for sickness, for disease, and sometimes they can be found, and sometimes they cannot; but our business is to find out disease, if there is any, and remove it.

Little things done at the right time save us from many an evil; and little things done at the wrong time cause the greatest mischief.

It is the deformities and depraved tendencies and legacies handed down from one generation to another that are our hindrances.

Disease is in the atmosphere we breathe, and the atmosphere may have fever in it, and when you go out in it a diseased wave of air may go through you, and the whole population may be impregnated with it.

Women who are stagnant in their habits generally beget disease. Many a man can do his wife more good with a horse and carriage than twenty doctors, for it is in most cases change of air that is required, and plenty of it.

Disease comes from the pollution of life. Many a child has been born to live, but it becomes unhealthy through ignorance.

Some parents do not even know how to feed their children. Give your child the food adapted for it; but sometimes food is given it to stop its crying, and generally it can have whatever it wants, such as pork pie and other food not adapted to its frame and functions. Many persons have had the cholera because they fancied they had it.

Our health and our disease depend upon our minds. Many a young man comes to me and asks me what can be done for him, and I tell him he is to be cured by studying his mind entirely; and I tell him he has got to get his will back ready to assert its authority for him. That is the medicine he wants.

A man ought to live all over; but some live in the front or the back parts of the brain alone, instead of in all parts.

We should use all our functions, then we should be on the way to health; but we find some who are sticking and cannot move because the brain has been without stimulous and healthy action.

We ought to be pleasantly and profitably employed, and live a temperate life in all things; but, if you notice, we are temperate in some things and intemperate in others; we are not temperate in everything. What is true of a watch is true of the human machine; we need to understand how to wind up ourselves, and exercise and build up ourselves, as well as how to exist in the world.

The well-made man, from good stock, will live the term of his natural life. One weak organ in an otherwise strong constitution is a defect, and has a defective influence; and still there may be only one organ out of order.

Some children are born with a tendency to consumption, and they go about with consumption, and probably will always be so unless some special means are taken to prevent it.

There is a great deal in taking ourselves to task and doing the thing we resolve to do. If you have any will in you bring it out, and do your will, and God will bless you.

It is dangerous to have a morbid turn of mind, and we ought to watch ourselves, for disease of body produces de-

rangement of mind, and a perverted mind produces physical derangement and disease ; therefore, in order to avoid mental derangement eschew mental excesses and indulgences.

There is magnetism in our bodies, and a healthy man generally has some to spare. The mind wears out fastest where there is the greatest friction, the greatest labour or work to do.

To avoid this, men should obey the laws of health to the end of their time ; for men who violate the laws of health do no good. To be controlled by habits is dangerous to a man's mind and stunts it.

A great many people are moral cowards, and starving the body is starving the mind. We should not worry our mind, because it has a powerful influence over the body. Some soldiers will go through many strange countries with no comforts for eating and sleeping, and think nothing of it, and come back all right ; and why should we worry about things ? Disease is greatly mitigated or aggravated by the influence of the mind.

There are two conditions that we ought to have : health and long life. We cannot do exactly as we like, but we do not always do as much as we might to secure them.

Look at the condition of society. A young lady in London laced very tightly. It was the cause of her death ; and she could have done differently, but she did not.

There is a great difference in a lady in a splendid dress and a poor sick individual in a poor dress ; and some men are running after the dress, and marry it. And what do they marry ? They marry the dress with ninety-five yards of cloth in it, and hardly enough woman in the middle of it to hold it up. A healthy poor woman is better off than a wealthy sick one. You must marry the healthy women first, and let the poor, sickly individuals come in as a necessity.

Young women, marry all the teetotallers ; marry them all off, and don't take your chance with the tipplers.—L. N. F.

MR. CRAIG AND THE LATE DR. TRAVIS.

WE think the following of sufficient interest to quote from the *Co-operative News* of April 19th :—The following critique on the " Memoir " and " In Memoriam " of the late Dr. Travis is interesting, as Dr. Eadon accepts the doctrines of Dr. Gall as the true philosophy of mind and character, which Mr. Craig has for so many years earnestly advocated as the most important, practical, and useful knowledge to be made known

to mankind. The position of Dr. Eadon is one of high standing among his professional brethren, as shown by this month's statement in the *Journal of Medicine and Dosimetric Therapeutics*, under the editorship of Dr. Phipson, where it is stated that the Institute of Dosimetric Medicine, of Paris, has awarded to Dr. Eadon its Diploma of Honour, which runs thus:—

"In consideration of the remarkable interest and eminent services rendered to the Dosimetric method by Dr. Samuel Eadon, the Institute of Dosimetric Medicine, of Paris, in testimony of high esteem and gratitude, decrees in general assembly, held in Paris, 54, Rue de Francs Bourgeois, a Diploma of Honour, and in faith to him we decree the present testimonial. A. BURGGRAEVE, Prof., President.

"CHARLES CHANTEAUD, Pharmacist.

"PARIS, March 18th, 1884."

To E. T. Craig, Esq., the Historian of Ralahine, and the last living member of the first-formed band of the great co-operative movement.

HAMBROOK COURT, NEAR BRISTOL, April 15, 1884.

MY DEAR SIR,—I have read in the *Co-operative News*, of April 12, with considerable interest the loving tribute and death-lament of your friend and coadjutor, Dr. Henry Travis, and likewise your touching lines on his life-work, as given with softened cadence in your "In Memoriam." The co-operative societies of Great Britain will, doubtless, feel proud that one old "gnarled oak" still stands "amidst a forest growth of younger trees," the symbol of bygone years of vigorous life; that the "old man eloquent," with his hoary locks of more than four score winters, still lives to move his magic pen, and do honour to his fellow compeers who pass off, one by one from the duties and responsibilities of earth-life to a higher, nobler, and grander form of being. Yes, it is glorious to sit and listen how the cerebral harp sounds responsive to the spirit-fingers still evoking music sweet and pleasant, and it is charming to think of and muse over how

A harp of a thousand strings
Has kept in tune so long.

But so it is. Thanks, a thousand thanks for the length of life bestowed.

The sketch given of your friend, Dr. Travis, is doubtless an encomium of his talents and virtues, but yet it is discriminating and true. Standing on the cerebral rock of the illustrious Gall, you command a wider horizon, and perceive objects

which cannot come within the range of the mental telescope of those occupying a less elevated position, whether they be the French Helvetius or the Lanarkshire Owen, or the co-operating advocate Travis. With you genius is something more than the result of "favourable outward circumstances," and society in its growth and inter-weavements, the resultant of causes other than those of objective phenomena and of that metaphysical nonentity the will, a faculty without an organ by which to manifest itself, unless the whole brain in its whole entirety of action, concentrated to one point, object, or circumstance is considered as the unific organ of the will ; if so, then to will-power much action must, of necessity, be ascribed. But if this be correct, even in a limited extent, the philosophy of its action on society must be misty, and often of doubtful result. The principle advocated by you—that the brain is the organ of the mind, and that every faculty or power of the human spirit has a corresponding cerebral organ, whereby it is manifested, undoubtedly lies at the foundation of all advancement, whether individually or socially ; and although, as you say, Robert Owen and your friend, Dr. Travis, "were made acquainted with these views, and admitted the principle, yet it is uncertain whether they apprehended their full practical consequences, as both fail to dwell on it (the cerebral philosophy of mind) in the exposition of their advanced views." Standing as you always have done on the rock of cerebral truth, I congratulate you that at this late period of life, and with knees less vigorous than of yore, the waves of friendship have been powerless to wash you off. For it was neither "outward circumstances" nor "will power" which caused Dr. Travis to take such a deep and abiding interest in the educational efforts of Robert Owen, or in the great social co-operative movement which he so long helped to foster and promote ; but in his fine cerebral organization, with his expansive moral lobes and intellectual front, with its deep cineritious depositions. From this, and this alone, resulted the actions of his life—a life that won your love, and makes you say—

No pang in social life like that which breaks
The heart-strings holding fast true friends :
And mine now bleeds at ev'ry broken chord
Of sympathy and love.

Your friend was clearly one of Nature's noblemen. His aim was to do good, to establish social co-operation, and "drive out from society the gnawing cancer of competition." Hence his numerous writings and his constant labours to benefit in every way his fellows. He was a model man ; and

the tear of friendship dropped upon his grave, and the immortelles of love so conspicuously placed by you before his wide circle of friends in loving memory, are honourable to both ; the one as being worthy of such a tribute, the other as having the power to record in language the goodness of his own heart. "A good man died when Travis passed away" says your "In Memoriam," but his deeds of goodness will live for ever. He heard "the workers' wail of woe;" he knew the tyranny of wealth ; the slavery of the working class ; the theft of land, the common gift of God to all ; the wage competition of man with man ; the greater the wealth, the deeper goes the steel of slavery into the heart of man ; and that landlordism and capital are the damning curses of modern life; these he knew, and to uncoil the chain of slavery from the toiling millions he moved heart, and brain, and hand to the utmost of his power, but in vain. The day, however, will come when the white slaves of civilization will—

. . . . Madly take the law
With vengeful fury into their own hands,
. . . . And with blood
Wash out the title-deeds of lands now kept
As hunting-grounds for wild and useless game,
For drones who live on honey gathered by
The starving workers famishing for food.

In a few lines you have written quite a little treatise on the land question ; summed up the excellencies of your friend, now showing his love for Robert Owen's work, and next his hatred of land-theft and the consequent present bound-down condition of the working and still poorer classes ; and, in conclusion, with a fanfare of trumpets, you boldly proclaim the convictions of a life's study and practical testing on thousands of heads, that the spirit of man can only be known in this life as it manifests itself through its organ the brain ; and in spite of all the metaphysics of Cudworth, Reid, Stewart, Brown, and a whole host of similar writers, you dare to say—

While science demonstrates the truth and power
Of that great law which proves the brain,
The source of mental force, and gives each faculty
Its separate organ, varying forms
Of size and quality, each with its own
Just means of satisfaction ; thus the brain
Becomes as readable as other forms
Throughout the visible wide universe.

Wishing you improved health with the coming genial warmth of the season,—Believe me, faithfully yours,

SAMUEL EADON, M.A., M.D., Ph. D., &c.

Of the Universities of Edinburgh, Glasgow, and Aberdeen.

FIFINE AND HER FRIENDS;
AN ATTIC CRUSOE.
By CAVE NORTH.

CHAPTER XXXIX.

HERZEL GOES ON A JOURNEY.

It was unfortunate for both Herzel and Fifine that the delay in his departure should have occurred. It was trying to both of them, but doubly so to Fifine, whose feelings were kept wrought up to an unnatural degree of tension. She felt deeply the indiscretion of the confession she had been drawn—almost in spite of herself--into making. But love, like murder, will out; and now there was no help for it.

For the first three or four days she saw little of Herzel, and then he piously observed the injunction placed upon him by Fifine, never to let the subject of their mutual affection be referred to between them. Willing, in the devotedness of his love, to spare her any unnecessary pang, and proud of her confidence in him, he fully intended to go away without any further allusion to what was so near his heart. He felt that the thought of her love would be a joy and a comfort to him when far away; he believed that it would sustain him and stimulate him to higher and nobler effort; he almost worked himself into the feeling that such a love, freed from selfishness and passion, was the best because the purest. Anyway he was resolved to prove true to her in thought, word, and deed. He would live for her—if necessary, die for her. She and his art alone should occupy his soul. On the wings of that love, pure and unselfish, he would rise to nobler things. Providence had so ordained that they could not come together as husband and wife—that joy was not to be theirs; but the joy of chaste impassionate love was not denied them. Having wrought himself up into this state of erotic enthusiasm, Herzel began to take pleasure in the contemplation of this Platonic relationship. It was the common way of the world, he considered, to fall in love, to marry, to grow cold or lukewarm in wedlock, and then to pass the remaining years of life in a strengthening devotion to worldly things; for what, he argued, is even a concern for the hereafter but a double-distilled worldliness? In his relation to Fifine, however, there would be no danger of any such falling off. Love, devotion, adoration, would be kept in their pristine freshness and strength; only the dross would go, leaving the pure gold behind.

Perhaps it may be thought that such a state of mind was more fitting for a young man just cutting, as one might say, his first love-teeth. But the fact is, the first strong passion comes pretty much alike to nearly all Adam's sons; provided, of course, all healthy sentiment has not been previously drivelled away in sensuality. The only difference is that in youth the passion is more purely physio-

logical ; it is only later that it becomes mingled, as it were, with thought, and takes its place as an attribute of the soul. One might compare the two kinds of love to that of the babe for its mother, and again to the love of the same child grown man or woman, for the same maternal nature. Each of the loves is beautiful in its way, but the latter has been winnowed of all taint of selfishness. This genuine passion of love, be it in young or in old, is, like anger, allied to madness ; and the more it is held in check, bottled up, and restrained, the greater is its force when it does find vent. So it was in Herzl's case. While he was revelling in imagination in his "great renunciation," picturing to himself his Fifine as another Laura, and himself as another Petrarch—or, which was more to his mind, either as another Beatrice and another Dante—another undercurrent of thought or feeling was going on in his mind, not altogether unconsciously, but subdued, put out of sight, "renounced" whenever it came too strongly to the surface. It was this : the constant suggestion of passion, of blind impulse, and of sensuous feeling, how much better it would be if, instead of that ideal life of abnegation, adoration, and Dantesque devotion, there could be the sweet "paddling of palms," the warm meeting of lips, and that tremulous looking of eye into eye, like the mutual gazing of two universes anxious to be comprised in one. Although constantly repressed, this undercurrent of emotion was working its way notwithstanding, and only awaited, like the lava stream, the weak place, or the weak moment, to present itself, for the fiery flood to burst forth and overwhelm everything that resisted its course. *Naturam expellens furca, tamen usque recurret.*

The scene was again in the little attic, where Herzl found Fifine all alone. Annette had been with her all the afternoon, but had gone down to fetch something she required, saying she would be back directly. Opportunity, and that irrepressible nature, which some characterise by the name of devil, that, driven out with a pitchfork will yet return—these were too much for the poor artist ; and after sitting silently watching his fair enamorata—much, perhaps, as the demon in Lermontoff's romance watched the mortal maiden whose beauty had bewitched his heart—he poured out in burning words all the longing, the suppressed passion, the frenzy, the despair of his long-suffering soul. He seized hold of her hand, drew it to him as he spoke, pressed it to his lips, then, drawing still nearer, clasped her to his breast.

Fifine had put down her pen when he began to talk, and listened at first with gentle compassion to his complaining. She called to his mind their compact ; but when love is in the wit is out ; and all his reply was—

"O Undine, bear with me ; I am mad with love !"

How could she forbear to bear with him ? How could she help being deeply moved by his passion and his kisses? loving him as she did. She chided him, but chided gently.

"Nay, Theodor," she said, "this is not like you. I know your

sorrows are great ; but am I not sorrowful too ? Will you not also think of me ? ”

“ I do think of you ! ” he exclaimed passionately.

“ But do you not think that giving way like this is not going to add to our happiness ? ”

“ I think we might be happy if you would ! ”

“ But how ? by yielding to passion like this ? Be calm now, and tell me.”

Reasoned with in this way, Herzel presently calmed down, and sat before her with pale face and storm-red eyelids.

“ Come, let us go,” said Fifine, when she thought he was sufficiently tranquil.

“ Wait just one moment,” replied the artist.

“ No ; come, or I must go alone,” she answered.

“ Undine,” said Herzel, rising, “ do you fear me ? Nay, do not fear me. I may have been violent, but I would not willingly hurt a hair of your head ! ”

“ I believe you would not,” replied Fifine ; “ but your feelings get the better of you, and that you know can lead to no good.”

“ What I would say now, dearest Fifine, is for both our good.” Fifine looked at him in silence, and he went on again, grasping her hand. “ Be mine ! He who claims to be your husband has no longer any title to you ; he has forfeited love, respect, duty, everything ; and you are now as free from your marriage bond as you were before you knew him. Come, be mine ! ” saying which he again tried to draw Fifine towards him, but she resisted, and with an effort disengaged her hand, and slipping past him, passed out of the room. He followed, and overtook her at the Claus Bromm door, where she tarried a moment to wipe the tears from her eyes, and smooth away other traces of agitation. Herzel asked her pardon if he had offended her, adding : “ I meant no offence, but everything in all honour. If you had seen fit to accept, you would have been as much my wife as though we had gone through all the marriage ceremonies in the world. We would have gone away to the end of the world where you would never be troubled by the sight of him any more. There is America, there is Australia, there is China ; there are a thousand places where he could never find you ! ”

“ It is not that I fear—him finding me out,” said Fifine, through her tears. “ Could not you protect me from him, if I put myself under your care and protection ? ”

“ Yes, love, from a thousand such. I would stand by you against the world ! ”

“ I know you would.”

“ Then what do you fear ? ”

“ I fear that you could not take me where my conscience would not find me out ; and against its torments even you, Theodor, could not protect me. “ No,” she added after a pause, “ when you have a wife you must have one with an unstained conscience—one, like Cæsar’s wife, above suspicion ; at least, I can’t be a party to giving you any other.”

Herzel leaned against the bannisters, and looked very grave.

"Come, let us part friends, and without any shadow of difference," said Fifine, still looking at him through tear-wet eyes; "the day will come when you will acknowledge, if you do not now, that I am right."

"As you say, Fifine, so shall it be," replied the artist, after a pause, presenting a brow of more assured calm, and holding out his hand in token of reconciliation. "The decision shall rest with your natural intuition of right, not with my worldly wisdom. And pray forgive my offence if you can."

"I forgive you," replied Fifine. "And now, good-bye; and I hope you will have a very pleasant trip."

"But I shall see you again before I start, shall I not?" queried Herzl.

"Just to say 'adieu,' and 'bon voyage,' that is all," replied Fifine; and so they parted.

Two days later Herzl started on his journey, and Claus and Fifine went to the station to bid him 'God-speed.'

Leitner also was there, and said as they came away that he felt so disconsolate that he was inclined to go and *bummeln* for the rest of the day. He did not, however, but went dutifully to his desk at the great Glückschild's, and remained there, feeling very miserable, until closing time; when he returned to his "den," dressed, and descended to supper with the parents of his betrothed, which had now become almost a regular habit with him.

"I feel myself becoming more and more a domesticated man, after the pattern of the ancient rabbins you so much extol," wrote Adolf to his friend Fafner, a few days before. "I have continually before me the advice of the worthy Hillel, and I have tried to make the dear Annette understand that I wish to follow it, but she meets me with the plea not to be in too great a hurry, and the old wife's opinion that the days of courtship are the happiest. I do not deny it, but tell her I should like to be able to judge for myself. I showed her your last letter, in which you state your marriage will take place at Whitsuntide, and asked her if we shall spoil two single-blessednesses at the same time. She said it was too soon, then she did not think she could be ready so soon, and then, she would see. So you see, mein lieber Fafner, you and I may start the race together. Had I been writing in English, I should certainly have perpetrated a pun here; hence you may thank your stars and our German tongue that you have been spared the infliction of a coin out of the small change of wit, which you so much abhor."

After supper, when Adolf found himself tête-à-tête with the fair Annette, he told her that he had written to Fafner to the effect that they two would in all probability make the same day he and Clara had chosen see also their spousals.

"You have still got that idea in your head," said Annette.

"Yes," replied Adolf; "don't you think it would be interesting to have both weddings on the same day?"

"Yes, if it were not so very near," answered Annette.

"It is truly very near. Shall I ask Fafner if they can't arrange to put their marriage off till autumn?" said Adolf, looking very serious.

"Oh no, I do not think I would do that; it would be a disappointment to them," replied Annette feelingly.

"So would it be to me," replied the young man.

Annette slyly looked up to see if her lover showed any signs of joking; but he looked as solemn as a judge; seeing which Annette said—

"Then I suppose it must be so."

Later the same night, Leitner was able to say, in writing to Fafner, that his and Annette's marriage had been fully arranged, with consent of the old folks, to take place when his and Clara's did. When this decision had been duly chronicled, Leitner went on to speak of the artist's departure.

"I shall miss him like a twin brother," he wrote; "for we grew to be almost inseparable. He is the very opposite of me; and it is for that reason I suppose that we took to each other so strongly. Imagine yourself, with several degrees more of the artistic temperament, with a degree less of fantastic humour, and minus some of thy crotchets (and I might add some of thy semiquavers and demi-semiquavers), and thou hast got a passable mental image of Theodor Herzl. The city does not contain his equal! But much as I shall miss him, some one here will miss him still more. If the eye may be trusted to speak the truth as it is in the heart, then Fifine's heart went with the artist this morning. Poor Fifine! she has unwittingly driven away her best friend, as well as her art teacher. For he goes away to cure himself of the love that was consuming him; and if I am not mistaken she too is stricken. If so, was there ever such a piece of tragic comedy? Jove never made two human beings, as one would think, better fitted for each other; and here they cannot come together because a lank, soulless, whistling corpse will not die, or be hanged, as he deserves. Theodor has asked me to watch over his forlorn love—in whom he says all his future is bound up—and to keep him informed of everything that concerns her. What would I not give to be able to write him before six moons have shone on his sorrow, that this predestinate hangman's prey had become worm's meat. However, *Ut est magna, tamen certi lenta, ira Deorum est.* With which citation, my dear Fafner, I will close this epistle."

CHAPTER XL.

BROUGHT TO BAY.

When a few days of calm after Herzl's departure had restored Fifine somewhat to her wonted serenity, she began to think seriously of carrying out her long-meditated project of seeking her natural parents (if unnatural in another sense), and doing the part of a dutiful and repentant daughter, by asking their forgiveness for her disobedience. The winter and an unfinished task had made her

willing to delay its execution ; but winter being now passed, and her task nearly completed, the planned journey began to take shape in her mind. It was decided that Julia should accompany her, and that they should set out on their journey as soon as the weather had become fairly settled. Meanwhile Fifine worked hard to put the finishing touches to the labour of love that was occupying her mind. This work ought, perhaps, to have been mentioned earlier, as it was the direct outcome of her voluntary exile in the garret, the chief reason of her wishing that retreat to be fitted up as a working room, and was begun, as regards manual exercise, as soon as it was put in habitable form, although commenced in the cryptic-fashioning cells of the brain before her Exodus from the Egypt of her fears. It was thus : in the course of her studies in the *Toxophilus*, she had been struck with the resemblance, as regards style and manner, between many of the thoughts expressed by the author of that quaint work and those she had heard come from the mouth of the Professor ; and meditating upon this fact, she considered first whether the one's thoughts were not as worthy of preservation as the other's, and deciding that they were, she resolved upon doing him the loving service of writing out some of Claus's best sayings. Some that she remembered were jotted down there and then on the margins and about the tail-pieces of the *Toxophilus*. Later, when time and opportunity served, these were carefully copied out under the heading, "Wit and Wisdom of C. B. ;" and others, as they occurred or were remembered, added.

One day Herr Schwarzbach entered the room when she was engaged in making an entry, and in his kindly, brusque way asked her if she did not spoil her beautiful eyes enough by her painting without taking to blue-stocking work.

" May I see what you are writing ? " he continued.

Fifine said it would spoil his eyes, as the writing was very small.

" I do believe," he said, in a bantering tone, " you are keeping a diary."

" Indeed, I am not," answered Fifine ; " but what if I should keep a diary ? Is there any sin in it, sir."

" No," said he, " but great folly."

" Why ? " asked Fifine.

" Because," replied Herr Schwarzbach, " it is only those who have no thoughts that think them worth keeping—paradoxical as it may appear—and those who have thoughts worth preserving never take the trouble to preserve them."

" That is so true," said Fifine, " that I will show you what I am doing ;" and with that she opened her book at the first page and explained her intention.

After perusing several pages, in spite of the danger to his eyes, he commended Fifine for her idea, and said :

" There is a man now, who can hardly speak without coming out with some original or witty remark ; and yet, I'll be bound if he tried to write his thoughts down he would make a mess of it.

"He can't do it," said Fifine. "He has been engaged for months on a paper for the *Kaiserstadt Uebersicht*, and it is now almost as far from being finished as on the day he began it."

"He is like a good axe without a helve," replied Herr Schwarzbach.

"That's why I want to serve, in some sort, as a helve to him," said Fifine, "so that his good sayings may not be altogether lost."

"What do you intend to do with them?" asked the other—"to publish them?"

"No, my intention was simply to preserve them; I'm afraid no one would think a lot of detached thoughts, however wise or witty, worth publishing."

"That remains to be seen," said Herr Schwarzbach, still turning over the leaves. Then throwing himself back in his chair, he added: "You go on collecting them, and put them into some kind of framework, so as to give them a connected form, and I will see that they are published. I think I shall be able to induce Herr Kürz to bring them out."

It was this promise, and the lively desire she had to do honour to her adoptive father, that stimulated Fifine to put renewed energy into her work. It was the thought also that her imagination might possibly work there with more freedom, that made her seize upon the hint thrown out by Herr Schwarzbach, to furnish her cave of Trophonius.

Only Leitner was admitted into the secret, Fifine having great esteem for his literary talents, as well as for his originality; besides, she thought he might aid her by drawing upon his memory for thoughts. Nor was she mistaken. Every two or three days she found in the letter-box, which had been affixed to the garret door, a budget of "Clausiana," as Leitner designated them; and so her collection soon overran the first volume and far into a second.

It was not until the Christmas festivities, however, that a fitting framework and title suggested itself, although both Leitner and Fifine had exercised their ingenuity to that end. The occasion that brought forth the desideratum was a gathering under Bromm's roof, when, in accordance with old custom, the "Twelve Apostles" were brought into requisition, and, by special request, Claus recited his humorous old-time legend of the same. When he had finished, and while the laughter and applause were still resounding, Fifine said, in an undertone to Leitner, who happened to be sitting next to her:

"There is our title and scheme."

"Where?" asked Leitner.

"The Twelve Apostles," replied Fifine.

She explained her idea, which was, to call the book "The Twelve Apostles;" to describe in an introductory chapter the twelve mediæval goblets with their apostolic names, and then to give in twelve chapters, each dedicated to an apostle, the thoughts, sayings, etc., appropriate to the character and virtues of each. Leitner highly approved of the idea, and Fifine set to work again when Christmas was over with renewed zest. We before said the book

was now near completion, and only needed a general revision to fit it for the printer's hands.

It was now nearing the end of March, and the journey of Fifine and Julia was fixed for the first week in April. Every one was in consequence very busy ; for though a woman may manage to pull through a year without any material alteration in her wardrobe, toilet, or wearing gear, yet if she be called upon to go away from home for but a couple of days, it takes about a week to make the necessary preparations. Fifine was especially busy, for, in addition to numberless little bits of feminine handiwork to attend to, she had to complete several fans that she was doing to order, besides having to put the finishing touch to the "Twelve Apostles."

One afternoon she was busy on the latter in her garret workroom, where, from habit, she could write with more ease and freedom than anywhere else (although for some cognate reason she could not paint there), when her labours were suddenly put a stop to by an extraordinary incident. It was nearly five o'clock ; she had been at work about an hour, and hoped to complete her revision in another half-hour. She was consequently in high spirits at the prospect of being able that evening to place the MS. in Herr Schwarzbach's hands to give to the publisher, by whom a portion of the work had already been seen and approved. Determined to get through it to-day, Fifine had begun early, working from ten o'clock to three with but one, or rather two, interruptions. One was caused by what the Professor called the forage-bell ; the other—which occurred a little while after she had got to work—was occasioned by Fritz coming upstairs and telling her to look out of the window, as the storks were returning. Fifine immediately threw open the window, and cast her eyes up at the spot between the two chimney-stacks, and behold ! there were the storks perched on their wheel as of old, and looking as wise and solemn as ever.

The return of the storks is always a great event in Kaiserstadt, partly because from time immemorial something mysterious has been associated with these waders, and partly also because they are true harbingers of spring weather. Hence there was quite a crowd in the street below curiously watching the movements of the feathered bipeds, as they plumed their wings after their long flight.

Fritz did not come up after dinner, as for some weeks past he had been ailing, and the doctor had ordered him to lie down of afternoons, and generally to keep himself very quiet. So Fifine was seated quite alone, busily pouring over her MS., here and there erasing a word, and substituting another ; and here and there transposing a phrase, or changing a point, when suddenly the outer door was opened, and some one entered. She knew it was not Claus, because he invariably made a noise on the stairs ; besides, it was not like his footstep, nor, indeed, like any one's she was accustomed to. She mentally asked herself who it could be, and was on the point of rising to see, when the form of a man appeared in the doorway.

On seeing the intruder, Fifine sprang to her feet so quickly that

she nearly overturned the table. For a moment the two stood facing each other, Fifine pale as a sheet, and trembling like an aspen ; the man with gleaming, cat-like eyes. For a moment they stood thus, and then the man advanced a step and closed the door behind him. Just as he advanced, Fifine recoiled ; and as his face lighted up with a kind of triumphant glare, Fifine's became transformed with a scowl of fierce hate and passion, if it is possible to conceive of face so lovely being so deformed.

Another moment and the man spoke—

“ So you know me, Fifine Montressor ? ”

This was said in a soft, insinuating tone, to which Fifine replied, with something of a hissing in her voice—

“ Know you ! who would not know you, in spite of all your disguises, who had once seen your vile face ? ”

“ It's been a hard job to find you : but you see you could not escape me,” replied the man.

“ Well,” answered Fifine, “ now you have found me, what do you want ? ”

“ What should a man want with his wife ? ” replied the fellow, with a fawning leer, and advancing a step nearer Fifine.

“ If you value your health, you had better come no nearer ! ”

“ Why ? ”

“ Never mind ; take my warning, and when you have said what you have to say, begone ! ”

“ I shall never leave you again, Fifine,” seating himself in a chair near the door—“ never again ; it has cost me too much trouble to find you.” Then, glancing round the room, he went on : “ This is a nice, cosy little place ; we can be very comfortable together here, dear. And you're looking more charming than ever,” he added, leering at her with head on one side. “ Don't be distant and cross, but come and make friends, and be a dear little Fif again ! ”

Boiling with indignation, Fifine listened so far ; then unable to bear it any longer, she exclaimed—

“ Richard Porter, Montressor, or whatever you may here choose to call yourself—”

“ Goldwhistle ! Goldwhistle ! ” he interrupted with a grin.

“ Well, Goldwhistle, then ! I suppose, according to the laws of the world, I am your wife ; you have the right to call me such ; but neither you nor anything the world can do shall ever induce me again to recognise you as my husband, or allow you to exercise any right over me as your wife. I would sooner throw myself from that window than be polluted by your touch. Take this, then, as your warning, and henceforth let our ways be apart. You will get no good by pursuing me ; you may get evil.”

“ Take time to consider, dear ; you are angry now,” broke in Goldwhistle with his hateful leer, that was intended to be insinuating.

“ Time to consider ! ” exclaimed Fifine ; “ I have had time enough to consider these months past. No more consideration is necessary. I took my decision when I quitted you, and nothing will ever change

my mind. I would sooner die any death than live in your presence for a single day!"

"But I am here now, and shall stay," he said, seating himself more firmly on the chair.

"Then you will have to stay alone," said Fifine, moving quickly towards the door, and trying to pass him.

He was too quick for her, however, managing so to push his chair sideways as to block up the door, but nearly upsetting himself in the effort. He tried at the same time to catch hold of her, but she sprang quickly out of his reach.

Fifine was now at bay, and stood with heaving breast and flashing eyes a few paces away. After a pause she said—

"Do you know what you are doing? Do you know I have only to scream or ring the bell in order to bring assistance, and that then those in the house who know you of old would treat you with scant courtesy."

"They did not then know me as your dear husband," he replied with a grin.

"Will you leave the room, or move away from the door, and let me pass?"

"I will do neither; the room is yours, isn't it? and what's yours is mine. Now don't be a fool, Fif, and make me cross; for when I'm cross, you know, I can be damned cross, and no mistake!"

As he uttered this threat, Goldwhistle attempted to rise from his seat, but fell back again, and Fifine now perceived what she had half surmised before, that he was the worse for drink. She now saw that matters were getting critical, and so, without more ado, she darted to the bell, which was at the other side of the stove from where he sat. He, however, suspecting what she intended to do, sprang to prevent her, and succeeded in seizing her left arm, and holding her back. But the next instant he measured his length on the floor, upset by a violent push which Fifine, nerved by indignation and despair (and aided by his drunken condition), gave him with all her force. He fell with his head against the door, and seemed half stunned with the blow. Fifine now rang the bell, and only feared the miscreant would come fully to his senses before assistance arrived.

He had just begun to rub his head when Fifine heard the Professor's well-known footstep hastening up the stairs. The next moment he was at the door. He tried to open it, but could not.

"Push, father!" cried Fifine.

Goldwhistle, however, was now fully recovered, and scrambling on to his knees, he set his shoulder against the door, at the same time holding the handle. For a moment or two it seemed as though the flautist was more than a match for Claus; but the next instant the door flew open with a crash, and the tipsy intruder was hurled half-way across the room. Another instant, and Fifine was in the Professor's arms.

"What is the meaning of this?" asked Claus, when he had had time to get breath.

"That is my husband," answered Fifine, pointing to Goldwhistle, who had managed to scramble to his feet, and now stood facing them with a fierce, defiant look.

"So!" exclaimed the Professor, taking in the whole situation at a glance. "Fifine," he said, "you had better run downstairs and fetch up Herr Nussbaum."

"What do you want to fetch him for?" asked Goldwhistle.

"Oh, he will have something to say to you," replied Claus.

The fellow's tone and air changed in a moment; the craven showed himself in every feature, and he begged the Professor to let him go, and he would never return to the house again.

CHAPTER XLI.

FIFINE IS FREE.

On the second night following the afternoon on which the incident occurred that is related in the last chapter, Adolf Leitner was sitting in his room occupied with his pipe and his meditations, when he heard a low knock at his door. He rose and opened it, and was surprised to see his quondam friend, Raubvogel, who stood winking and blinking when the light shone upon him. Leitner had not seen him for some time, and had more than once wondered what had become of him. He had missed his advertisement in the newspapers and his face at the garret window where he had been wont to see him from time to time. Once he had inquired at the house as to his whereabouts, but was brusquely told they knew nothing about him. Hence he was not a little surprised to see him now, and asked him what he could do for him.

"I want you to come and see the Englishman—you know, he who spied about after the lady; he is very bad with delirium, or something of the kind, and he is saying all kind of wild things that I thought you might gather something from."

Leitner invited the man in, and questioned him closely, to be sure that there was no deception being practised: but the fellow told a straightforward enough story. He said Goldwhistle had unexpectedly returned about a week ago, and had found him out, and repaid the money he had taken from him with interest. They had been living together since. Goldwhistle seemed flush of money, but how he came by it he did not confide to him. All he communicated to him about his doings in London was to the effect that he had been able to learn nothing about Fifine having arrived there, and that he was sure she must still be in or about Kaiserstadt. "That," said Raubvogel, "is what has brought him back."

"Did he ask you if you had seen the lady?" asked Leitner.

"No," said Raubvogel, "he did not."

But Leitner gathered from his manner that he had, and that he had been able to give him some information. However, he kept his thoughts to himself, and continued his interrogations.

"You know, of course, he was here two days ago?" he said.

Raubvogel said he did not, and seemed really surprised.

"Did he get anything by his visit?" he asked.

"A rough handling, and that was all," replied Leitner.

"That will account for his taking to drink so heavily," replied Raubvogel; "the last two days he has hardly done anything else."

The upshot was that the young man decided to accompany the fortune-teller to his lodging, and see Goldwhistle. After a walk of about five minutes, his conductor led him into a narrow, ill-paved street, the tops of whose houses approached so closely together, that it seemed possible to step across from one roof to another. They turned into a dingy, ill-lighted house, and groped their way up a narrow staircase to the second floor, where they entered a poorly-furnished room, in which a dim oil lamp shed a pale, flickering light upon a bed in one corner. By the side of the bed sat an old woman almost in rags, and upon it lay, half undressed, the gaunt form of a man. When they entered, he was still; but they no sooner approached the bed-side than he raised himself up on his elbow, and looked at them with a fixed, though unintelligent stare.

There was no mistaking the man; it was the flautist sure enough; but how changed from him whom Leitner had known but a few months ago! His hair was long and matted about his temples; his hollow cheeks seemed almost to meet each other; while his eyes, which appeared almost ablaze, looked as though starting from his head. He began to talk in a wild, incoherent manner, mixing up English and German in such a way that he was altogether unintelligible. One thing only was comprehensible, and that was his constant cry for brandy. The old woman held a glass of water to his lips, but he no sooner took a sip than he dashed it away from him. He then again began his rambling talk, accompanying it with violent gestures.

Leitner scribbled a note to Dr. Bleichroder, and sent Raubvogel with it. Then he sat down by the bedside to wait for the Doctor's coming. For a little while the patient lay quite still, staring fixedly at the ceiling; then he turned his face towards the door, and after looking intently in that direction for a minute or two, he raised himself up a little, pointed to the door, and said—

"Look! do you see? There they come—scores, hundreds of them!"

"Lie down, there's a dear! There's nothing there," said the old woman, trying to compose him.

But he pushed her aside, and went on—

"Nothing there? Why, look now! there are thousands of them in blue, no bigger than your hand. They are coming towards the bed! Look there at the foot! Now," he cried, drawing up his legs, and shading his eyes with his hand—"now they have put a ladder against the bed, and are beginning to mount it. My God! what are they up to?" he exclaimed, with a wild laugh.

A slight pause ensued, during which the patient kept his eyes rivetted on something at or near the foot of the bed. Then he began again—

"They have put a ladder up to the ceiling, and the leader of them is bidding some of them mount with a big hook. They have put it into the ceiling, and now they are fastening a rope to it with a noose at the end."

As he said this, his eyes seemed ready to start out of his head, and he appeared to draw himself more and more together; then with a sudden scream of "My God!" he sprang from the bed, upsetting the old woman as he did so, and rushed to the window, which he had open, and himself half way out, before Leitner knew where he was. He seized him, however, just in time to prevent him throwing himself into the street. They had barely succeeded in getting him back to the bed, when the Doctor and Raubvogel arrived.

Bleichroder, after looking at him with a very grave face, gave strict injunctions that no spirits of any kind should be given to him, but only water or tea, if he wanted anything to drink; that he should not be left a moment; and that, if he became worse, they should at once send for him. Finally, he asked Raubvogel to come or send to his house in half an hour for some medicine. Then he and Leitner groped their way out of the house and into the street.

"Do you think there is any danger?" asked Adolf.

"Yes, certainly," replied the Doctor; "but it is wonderful what these fellows will pull through."

It was about ten o'clock when Leitner bade Bleichroder good-night at the corner of Prediger-strasse. He called in at the Gasthaus, and chatted a few minutes with the Wirth, and was then about to tap at Claus Bromm's door, when that worthy came out.

"I came to bring you some news," said Leitner.

"Then you shall tell it to me as we walk along, if you don't object. I am just going to stroll as far as Schoenberg to see how Fifine is, as she has been a little upset since Tuesday's business."

Leitner told his news as they went along.

"I wish we could prevail on the fellow to leave the city," said Claus, when Adolf had finished; "Fifine will never have any peace while she knows he is here."

"We must manage either to bribe or frighten him away," replied Leitner. "The worst of it is that if you begin to bribe such a fellow you never know when it will end. I think we must try frightening first."

"We must either get him away, or we shall have to take Fifine away," said Claus.

"Poor Fifine!" exclaimed Leitner; "to think that she should have all her chances of future happiness blighted by that miscreant!"

They found Fifine anything but well; her nerves had been terribly shaken, and she was looking pale and ill. Julia whispered to Claus that she was afraid their projected journey would have to be postponed, as she did not think Fifine would be in a fit state to travel.

"It's a pity," replied the Professor, "as the journey might do her good, feeling, as she would, that she would be out of his reach."

When they rose to go, Claus said, patting Fifine's hand—

"You must not droop, little bird; bright skies and singing days will come again."

"I wish I could feel so; but it seems to me as if something terrible was hanging over me."

When they got outside, they found that the wind had risen, and that black clouds were driving across the sky, threatening rain. At the Torkenheimer Gate they lingered a minute or two to watch the effect of the moonlight upon the clouds, which, black as they were underneath, were yet irradiated with brightness above. At the corner of Prediger-strasse, where two hours before (it had just struck twelve by the Dom clock) Leitner had left Bleichroder, they met him and Raubvogel.

"Anything serious?" asked Leitner.

"Yes, there has been an accident," replied the Doctor. "Perhaps you had better come along."

The Doctor was very silent; but Raubvogel could not keep his tongue still, and soon told them all that had happened: that Gold-whistle, in a fit of delirium tremens, had jumped out of bed when his (Raubvogel's) back was turned, and overpowering the old woman—his only attendant—thrown himself out of the window.

On reaching the narrow street, they found a number of people congregated about the door of the house to which they were going. They were talking in subdued tones; and one held a lamp to the ground, where there was a pool of blood.

The injured man had been carried into a room on the ground floor, where they found him lying on a couch with his head bound up, surrounded by a number of people. The doctor examined his pulse and his breathing, and pronounced him to be dying. And so it proved. He never rallied for a moment, but lingered on for about half an hour in great agony, and then breathed his last. The Doctor sat by him holding his hand, his grave face full of pity. Claus stood near him, looking on, but had every now and again to turn away his head in order to hide a falling tear.

As the flautist was found to have left no money beyond a few small coins (although from facts which afterwards transpired it was surmised that he had had considerable, but it had been dexterously conveyed* to his own pocket by Raubvogel during one of his companion's paroxysms of delirium), the Doctor and Leitner resolved to defray the expenses of his funeral.

A question now arose as to how the news of the terrible death of her husband should be broken to Fifine. Bleichroder and Leitner were for keeping the matter from her at present, merely giving her to understand that he was out of the way, and would not be likely to trouble her more, and only communicating the real truth later, when she had recovered from the shock of his brutal intrusion. Claus, on the contrary, was of opinion that the truth should be conveyed to her at once—at least before the funeral; deeming that, bad as he was, she might like to see his face once more. In this he had Bear

* "Convey, the wise it call."—PISTOL.

and Zerafine on his side, both of whom thought—and in this they would probably have had ninety-nine out of a hundred women on their side—that it would be a satisfaction to Fifine after all to take a last look at him who was her husband. As Claus stood in the relation of parent to her, the matter was left in his hands. Accordingly, on Saturday, the Professor and Bear went to Schoenberg to communicate the tidings. Fifine was looking no better than when Claus saw her last, on the night of the fatal accident. Julia said she thought, if anything, she was worse. She had been so restless that for the last two nights she had slept in the room with her. She seemed to be oppressed with the sense of some impending danger, under which she was weighed down during the day, and afflicted with bad dreams at night. She talked continually in her sleep, and once or twice had waked up sobbing. From the fact of her having overheard Herz's name mentioned in her sleep-talkings, Frau Schwarzbach supposed he was the subject of her anxieties; but as in these unconscious utterances, Fifine used English almost exclusively, she could not gather much from them. When she had asked her what caused her to be so troubled, Fifine replied that she did not know, it was simply a feeling that something was going to happen, she did not know what, or had happened, and she was going to hear of it.

At the beginning of the week a letter had been received from Herz, in which he said that they would embark at Liverpool on Thursday, which, said Julia, was the day on which she began to show these symptoms.

"Would not that be accounted for by her meeting and struggle with her husband on the Tuesday?" asked Claus.

Julia said it might be, but that she was much brighter on Wednesday, when she made light of her husband's ability to torment her. "Before," she had said, "when I hid myself to be out of his reach, I was without friends, or at least I did not feel so assured of their ability and willingness to help me as now; and, moreover, I had not learned that self-reliance which somehow came to me in the darkness and loneliness of that garret, when there seemed to be nobody I could appeal to but Beauty and my God. Then I felt that I was in some sort his possession; now I feel that I am my own, bound by no promise of obedience." She had felt strong in her power to protect herself against him, and so was cheerful, although in a nervous, excitable state.

"Her condition on Thursday may have been the reaction," said Julia.

"Possibly," replied Claus; "but we come to announce to you the intelligence that her husband died on that night by a terrible accident."

The Professor then detailed the whole occurrence, which greatly shocked the good lady.

Fifine now appeared, and both Claus and Bear rose to greet her. With the swiftness of a mind on the look-out for presages, she noticed Bear's half-mourning, which out of respect to death, rather than to the dead, she had put on.

"What is the cause of your mourning?" she asked, when their mutual greetings were over.

"We are the bearers of sorrowful news," said Claus.

"What is it?" she asked, clasping Bear's hand very tightly.

"That your husband is dead," replied the Professor.

"My husband dead! Surely not!" she exclaimed, turning paler than ever.

Claus broke the whole news to her slowly, and with great tenderness. She leaned her head upon Bear's neck, and wept bitterly. They finally left her, still weeping.

On Sunday night, Fifine decided that she would go in the morning and see her husband's corpse before they bore it to the grave. Julia and her brother accompanied her. When they reached the house they found the Professor and Leitner, with Nagelmann, already there. A number of people were about the door. The ladies were shown into a room adjoining that in which the corpse lay, and had to wait some little time before they were invited to enter the chamber of death. Fifine asked to be allowed to enter accompanied by Julia and Claus alone. The face of the dead man was covered by a handkerchief, which Claus removed at a sign from her. Fifine looked for a minute or two at the white sunken cheeks, at the pale brow scored with marks of weakness and marks of suffering, and a feeling of pity welled up in her heart that almost obliterated for the moment the remembrance of her own grievous wrongs. She knelt down by the side of the coffin, and bowed her head: then rising and drawing her veil over her face, she put her arm under Julia's, and they passed out.

As they left the room, several persons came downstairs, among them being an inspector of police and Raubvogel. Another had the look of an Englishman; with him Leitner got into conversation, and so obtained some information which he the same day communicated to Fafner in a letter. As it somewhat concerns this story, we may as well take Leitner's narrative, and so conclude this chapter:—

"The pure womanly human heart of her conquered at last, and she had a tear for his memory, and a prayer for his soul! Woman somehow is more than man! Why she should want to be his equal, and descend to his quarrels and cabals round ballot-boxes in political whirlpools, the Lord only knows!"

"But to think that, even to the last, disgrace followed the man, and that the myrmidons of the law tacked a crime on to him even with his coffin lid! Just as Fifine arrived at the house to take her last farewell look at him, an English detective recognised him as the person wanted for a felony; but as his name had been entered upon another charge-sheet, and his soul had gone before another bar—where perhaps will be taken into account what had been done for him as well as what he had done—he quietly gave the *pas* to Death, who had been before him in getting a writ of *habeus corpus*.

"His crime was having inveigled a foreigner into a tavern, where, after making him drunk, he robbed him of two hundred pounds in

gold and notes. It is a mystery what he could have done with all the money in so short a time—barely a month—although he had been drinking heavily; for barely a gulden was found among his effects. It seems he is known to have gone by at least half a dozen names."

(*To be continued.*)

Correspondence.

PATHOLOGICAL FACT CONFIRMATORY OF PHRENOLOGY.

To the Editor of THE PHRENOLOGICAL MAGAZINE.

SIR,—Reading in the "PHRENOLOGICAL MAGAZINE," July, 1883, a paper on "Pathological Fact Confirmatory of Phrenology," with an invitation for any one to write who can give well authenticated facts of the kind, the thought has occurred to me that I might give one or two facts bearing on that subject. In January, 1881, my youngest child, a boy of four years, had incurred my displeasure, and I deemed it necessary to administer some slight corporal punishment; at the same time showing by my words and looks that I was deeply grieved. My child not only began to cry, but showed signs of great fear. I said to him, "Cease that crying!" "I can't, Ma," he replied; and putting his hands to each side of his head, he cried: "My head! my head!" I asked where the pain was, and placing my fingers to where he pointed, I was surprised to find it very hot just where the organ of Cautiousness is located, all the other organs being comparatively cool, and it was some time before his fears were allayed and he became calm. I am convinced that I made a mistake in thus exciting an organ which being larger than any of the others, would naturally require rest rather than excitement. One more fact which I would name. In October, 1880, my second son, who was in his twelfth year, was preparing for examination in one of our local elementary schools, and—as he came home to meals—I noticed he did not eat as usual. Presently he began to indulge in secret fits of crying, and, when questioned, did not know why. At last one morning, feeling very weak and poorly, he was obliged to remain at home. This was a great trouble to him, being so fond of learning; and as I looked at his thin pale face, and noticed how his intellectual faculties had been expanding, I thought, if I ask why are some persons consumptive, phrenology answers, because mind predominates, or, in other words, because the intellectual faculties far exceeds the basilar organs. And then for the first time the thought flashed into my mind that my boy was predisposed to consumption. I lost no time in consulting our family doctor, and communicated to him my fears, which he endeavoured to joke away, but promised to come and see him. He did so, and after examining his patient said to me: "You

are perfectly right, your child is predisposed to consumption, but great care being used, we hope to ward it off." These words afforded me considerable relief. "Ah," I thought, "phrenology has been right: it has pointed out to me the disease and also the cure!" I saw clearly that the intellectual faculties must have entire rest, and that the lower organs must be exercised. With that object in view, several of his schoolfellows were invited to visit him, especially those with the round faces, who amused and interested him. And as soon as whole, he went for a day's outing in company with his elder brother, to some friends at a distance; and it was astonishing to see that in less than a fortnight he was able to return to school, and successfully pass his examination. My eldest son, now in his twenty-first year, who has been giving his attention to phrenology for about four years, has written an essay on, "Phrenology an Aid to Christian Perfection," and has read it before two mutual improvement classes—the last by request. I would just add, in conclusion, that if parents, especially mothers, would give a little of their attention to phrenology, it would greatly aid them in training up their offspring; would not only save doctor's fees, but also many a precious life.

Apologizing for trespassing on your valuable time, I am,

Yours respectfully,

M. A. CLARK.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions:—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

JUNE.—Has all the appearances in a phrenological and physiological point of view of capacity to take a place of trust and responsibility, more especially where he grows up in the business. He has a good practical intellect, readily learns by experience, and is sagacious and intuitive, as well as active and industrious. His powers of body and mind are available, and he is capable of turning business quickly, and of seeing and knowing what to do, and how to do it, without being told. He has favourable talents to estimate cost, profit and loss, and to square up accounts. Would succeed better in business than in anything else, except as a travelling agent.

C. B. (Scarborough).—The hair on the head so thoroughly covers it that I cannot be very definite in my description; but her physiology indicates a firmly-marked character, health, and long life. She has a good physiological constitution, and will make a very efficient woman; is full of life and animal spirit, has strong feelings and impulses; will make a positive friend and lover; has the execu-

tive power strong, and will be forcible and spirited. She has good conversational talents, is wide awake to what is going on around her, is quick of observation, and has good perceptive powers and practical common sense.

F. C. L.—Has an industrious temperament, is rather muscular and highly nervous, is strongly imaginative and sentimental; has versatility of talent, and is ingenious and somewhat given to invention; will be too schemy and far-fetched in thought. Memory of details is not good. More forcible than copious in speech; can write better than talk; has a lively sense of wit; is naturally pliable and bland; has more than ordinary moral power, and can be very useful.

“JAY”—Has an earnest, ardent tone of mind, puts her whole soul into what she does; is eager for knowledge, has a progressive spirit, and great perseverance; is tenacious, ardent in her attachments, and has a strong, social, domestic nature, free from revenge, and somewhat short in perceptive power and definiteness of observation, but good at planning, teaching, and encouraging reform and progressive movements. Her predominating powers are brain and mind.

“TAY”—Has more than average ambition, is aspiring, and very anxious to improve, and to do something of the popular nature. She has much elasticity and determination of mind, has the elements to make a strong, decided character, and is prepared to take responsibilities, and if necessary be a leader; is executive, and can be forcible; is not timid or irresolute; has good common-sense, practical talent, and knowledge of the ways of the world; is quick to take a hint, and is well adapted to business or housekeeping; but in wedlock her pride and ambition will have to be gratified as well as her affections.

B. E. (Aberdare).—Is earnest, enthusiastic, musical, and versatile in talent; has good perceptive power; is knowing and well posted up; has artistic talent in drawing, making, and inventing; is very fond of music; would like to appear before an audience as a speaker or musician; is highly nervous, is very particular how everything is done; is a sharp critic and intuitive; is very energetic and forcible as well as highly sympathetic; is easily impressed, and liable to extremes, which he should guard against.

A. KETTERING will, with proper management, work up into a substantial, steady, reliable man. There is no reason why, according to organization, he should be depraved or wayward; he may not be bright and showy at first, but will be reliable. He has good talking talent and practical ability; can judge well of property, and be able to take the advantage of circumstances. He has all the elements of steadiness, and he is persevering; but he is sober and earnest, and not prepared to take jokes well. He should be in the grocery business, or something similar, or should study and be a scientific man.

J. S.—Has a motive, mental temperament; is much given to mental and physical action; is constitutionally industrious, and has

much strength of character ; is rather abstract in thought, governed by reason, more than by observation ; delights to think on theological questions ; has more than an ordinary amount of moral principle, is very tenacious in his opinions, very conscientious in his doings, and very independent in his feelings ; rather absent-minded ; has scarcely enough of the vital temperament for a favourable balance of organization.

W. J. Y.—Has a high degree of the vital and mental temperaments ; enjoys life uniformly ; is not subject to many extremes. Can labour physically, but would prefer some official position where he could superintend others ; has great power to acquire knowledge from the external world ; is easy and copious in language, kind and tender-hearted, rather over-cautious, none too enterprising or hopeful. He worships a good and merciful God ; is hardly firm and positive enough.

J. H. (Rochdale).—Has a critical, close, observing analogical, discriminating, intuitive kind of mind ; he believes in facts, is not abstract in thought, is adapted to scientific pursuits ; needs more executive and worldly capacity to make him thorough ; is very open-hearted, and rather confiding, but has firmness and perseverance, and a good degree of self-confidence ; has scarcely enough of the warm, genial and domestic capacity, but is decidedly kind and tender-hearted.

R. H.—Has a favourable balance of the temperaments ; is warm-hearted, ardent, social, loving, genial, sympathetic, and easily becomes interested in others. Has a favourable intellect for observation, but is much inclined to reason and investigate new subjects. He is orderly, and capable of being good in figures if not in mathematics ; is quite emotional, sensitive, and inclined to preach and teach, and to encourage reform. He delights to tell what he knows to others.

E. L.—Is characterised for earnestness, strength of feeling ; has a strong hold on life, and capacity to enjoy physical existence. He should allow his intellect and moral faculties as much controlling influence as possible, consequently to interest himself in intellectual and moral questions, as well as in the reforms of the day. His perceptive power and reasoning capacity is superior to his memory, hence he talks about what he knows and thinks, rather than recites or refers to the past. He should be in constant employment, and have right motives for action.

E. M. (Gorleston).—Is well disposed, and of an amiable type of mind, not selfish nor gross, still may find it difficult to properly regulate his love-nature. He lacks the element of cruelty, but has great firmness and perseverance. His moral powers appear to be in the ascendancy. He is respectful and mindful of superiors, has an available, practical common-sense intellect, and will get through the world rather easily, for he acts on the principle of “Live and let live.” He should engage in some practical, honest sphere of life ; he might be a surveyor, accountant, or navigator.

VOL. V.

R



H.R.H. THE PRINCE OF WALES.

THE

Phrenological Magazine.

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THE PRINCE OF WALES.



T is most difficult to describe the natural character of a public man, especially where he is obliged to adapt himself to a great variety of opposite conditions and circumstances, and be all things to all men. There would be as many different opinions entertained of him as he is seen in different phases of character. Those who are obliged to cater to all classes are less liable to have so fixed and settled a character of their own, although they may have strong natural gifts. Independently of all outside influences, the Prince of Wales has some very strong qualities of body and mind.

First, he is well and favourably organized in body, has a strong constitution and a very high degree of vital and digestive power. He has a strong hold on life, and is capable of a great amount of physical endurance and enjoyment. He has fair muscular strength, and capacity to put forth muscular effort, if necessary. His nervous temperament is fairly developed, but not predominant. He has health and capacity to enjoy life with all its changes.

Secondly, he has a heavy base to the brain, which gives an ample supply of vitality and animal life and spirit.

Thirdly, he has a first-class appetite and digestive power, and thoroughly enjoys whatever will gratify it.

Fourthly, he is very fond of excitement and concentrated pleasure.

Fifthly, he has a prominent degree of force and energy of character, when he takes upon himself any great physical task.

Sixthly, he is capable of a great variety of enjoyment and excitement, and is more uniformly happy and good natured than the majority of men.

Seventhly, he has a strong social nature, and enjoys the society of both sexes highly.

Eighthly, he is not organized on any rigid plan, with a predominance of bone, muscle, or nervous system, but he has a balance of power, with a predominance of the vital, which helps much to make him pliable, bland, easy, genial and conformatory.

He has a favourably developed intellect for acquiring knowledge from observation, physical contact, and experience.

His perceptive faculties are all large, which give him good judgment as applied to what he sees, does, and hears.

His sense of order, and power to organize are favourable qualities, and must have a distinct influence.

Language is large; there is a peculiar development to his eyes; they are not only large and fully developed, but they stand out from the nose, which indicate verbal memory and ability to recall names he has heard.

His forehead is full in the centre, and high from the root of the nose, up to Benevolence. He has not only good observing power and memory of events, but he has great powers of comparison, and ability to see the relation between one subject and another. He may not care to invent or investigate primary principles or complicated subjects, but he has good powers of analysis; he is able to take circumstances into account, and make the most of his situation.

He is quick to take a hint; is sagacious and intuitive in his perceptions, and uses his knowledge to the best advantage.

Agreeableness is large, which gives urbanity and blandness of manner; and, with his large Imitation and Benevolence, enables him to adapt himself in an easy and agreeable manner to a great variety of society; hence he is able to make himself popular wherever he happens to be.

His large Language and perceptive intellect, with his power of intuition, aid him much in making off-hand remarks and speeches, as the occasion may require.

His moral brain, to all appearances, is favourably developed, but may be severely taxed in regulating his life, because of so many surroundings and temptations that are constantly placed in his way.

He is rather high in the crown of the head, which favours independence, pride, and self-satisfaction, and, independently of his position, would give him ambition, and a powerful stimulus to excel.

He will probably disappoint many when he comes upon the throne by developing more power and strength of will than many suppose him to possess; for, what he needs is a responsible position, where he alone is responsible for results, in order to develop to the best advantage.

L. N. F.

THE PSYCHOLOGICAL BASIS OF RELIGION.

RELIGION FUNDAMENTAL IN HUMAN ORGANIZATION.

Induction from the literature of religious systems thus clearly establishes the general fact that the primary conceptions, underlying all forms of religious faith, are as really fundamental activities of human life as understanding and imagination are. It would be scarcely scientific to affirm that these ideas are of themselves innate, but it is strictly within the limits prescribed by the inductive method to say that they are the invariable exponents of a psychical activity that is fundamental and instinctive, and that they imply as their psychological basis the existence of an instinctive cognition, which may be conveniently designated as the cognition of the spiritual or of the Infinite ; although, in point of fact, it would be more strictly scientific to style it the perception of being, using the term *being* in its antique metaphysical acceptation. As a form of matter, and embodying in my own person an epitome of its activities and laws, I have an instinctive cognition of myself as a material phenomenon, having given relations to other material phenomena ; and this cognition, so far from being a product of sensation and consequent generalization, is the spontaneous exponent in consciousness of the organic fact ; that is to say, of the fact that I am a material organism, with processes of nutrition and assimilation, and have a fixed and unalterable physical dependence upon a material substratum, into which I am physically resolute, and of the forces and laws of which I am the conscious register. But parallel with this runs an instinctive cognition of myself as a subjective being and as a conscious entity ; and this, again, is the spontaneous exponent of the fact that I am a subjective and psychical entity, and, as such, have a definite relation to the ultimate subjective potentiality. In final analysis, the idea of causation is an equivalent in consciousness for the dualism instinctively conceived as existing between subject and object, potentiality and phenomenon ; so that, from whatever standpoint the problem is viewed, effect is synonymous with phenomenon, and cause with force.

This instinctive cognition of the dualism of our own natures, as subjective potentiality and objective organic phenomenon, is not only the source of our conception of cause as potential and of effect as phenomenal, but also penetrates to the very basis of volition : an act of volition being fundamentally an

act in which the mind conceives itself as causative potentiality, and organism as the means through which, as such, it produces a given effect. The idea of moral responsibility in acts of volition is, consequently, one of the many results that flow from the fundamental form of consciousness designated as the notion of cause and effect. Expunge from human nature this conception of ourselves as a duality of mind and body, therefore, and moral responsibility ceases to have any intellectual basis, the idea of causation is extinguished, and our acts assume to ourselves the complexion of mere automatic movements. Professor Huxley is strictly logical in his sequences when, in his criticism on the Cartesian view of consciousness, and in his more recent paper on the automatism of animals, read at the August, 1874, session of the British Association, he contends that a man is simply a cunningly-constructed clock, and that matter and law have cast out spirit and spontaneity.

THE PSYCHICAL AND PHYSIOLOGICAL UNLIKE.

I have pursued this incidental aspect of the subject at some length in order to indicate distinctly the intellectual and moral sterility that necessarily accompanies all material hypotheses of the soul and all attempts, however ingenious, to explain the higher psychical aspects of life on purely physical principles ; although it is quite true that, for the purposes of physiological investigation, and in pathology, particularly, it is necessary to consider the neurility of the nerve as synonymous with psychic force, and instinct and intelligence as activities of nervous tissue ; and the physiologist can not in propriety be censured for employing the terminology essential to his science, except in instances in which he attempts to apply it to questions not legitimately within his jurisdiction. The nervous system being the special seat of the psychic potentiality, between which and it exist an intimate mutual relation and dependence, in so far that degeneration of nervous tissue is accompanied with mental perturbation, a thorough study of nervous organism and function is absolutely necessary to scientific psychology. But, in accordance with the higher philosophical principles laid down in the preceding paragraph, the fundamental discrimination between mind and body, potentiality and tissue, must be firmly observed ; and in direct proportion to his neglect of this vital necessity of his science, the psychological inquirer falls into vague metaphysical vaporizing on the one hand, or into barren physical theorizing on the other. Having thus put the reader *en rapport* with the spirit in which this paper is written, and

in possession of certain necessary facts appertaining to the science of comparative religion, the way is open to the consideration of the issues pending between physicists and theologians.

THE DOMAIN OF PHRENOLOGY.

As distinguished from the cerebral psychology expounded by Dr. Bain, while regarding the brain as the material substratum of the psychical potentiality, phrenology is that science that concerns itself with the study of nerve-centres as the special seats of special faculties, and considers the cortex of the brain (or lamina of consciousness) as differentiated into nervous centres, exercising special and very diverse functions. In its more comprehensive aspects it assumes that, through the distribution of the special nerves, co-ordinating and inner-vating the purely physical functions, there is a reciprocal relation and interaction between the purely organic and the specifically psychical activities, in such manner that every organ of the human body and every species of tissue have each an appropriate influence in giving direction to the central activities of the nervous system, but that these organic influences, so far from inexorably determining the psychical activities with which they are interwoven, may be voluntarily disregarded or voluntarily indulged. In other words, they are the exponents, in the first place, of the relations of the organism as a whole to the material world from which it draws its nutrition, and, in the second place, of its relations to general environing conditions, and are subordinated to the higher ends of the psychical life. Presuming the integrity and sanity of all these functions, phrenology assumes that the individual organism, considered as a whole, represents the sum of all those influences styled hereditary, and of all the interactions between the psychical life and the purely physical activities which have taken their places as elements of culture or retrogression, from the first ancestor down. That given type of cerebral organization presented by the particular person under study, is the nervous register of all the aptitudes and biases thus acquired. Thus, structurally, functionally, and physically, a man may be said to remember every act, emotion, sentiment, passion, and idea presented in the organic, emotional, and intellectual life of the long series of organisms that have come before him, and to embody them all as potential influences and biases. In regard to the distribution of the nervous centres, phrenology holds that the anterior lobes of the brain are ganglia appropriated to perception, intellectual cognition, ratiocination, and so on, the congeries.

constituting a group of intellectual centres. The coronal lobes include the moral and imaginative centres ; while the posterior lobes are centres of the social instincts in general, and the cerebellar lobes are appropriated to the generative function. But while all these centres are appropriated to special psychical activities, they are also centres of the innervation of various departments of the organic structure and of their physical functions, and have thus a direct though unconscious influence in all those transformations and modifications of the physical organism that take place in the progress of civilization and culture.

CENTRES OF NERVOUS LIFE.

Although the great motor ganglia of the brain are interior in their situation and independent of the convolutions, the latter are, many of them, motor centres. This is particularly true of the anterior lobes, which include the principal centres of voluntary motion, and especially co-ordinate the muscles concerned in articulation, in facial expression, and in the external manifestation of intelligence. Indeed, all voluntary movements are, it may be comprehensively stated, propagated from the anterior lobes by way of the great superior ganglia known as the corpora striata. The involuntary and associated movements are, on the other hand, due to special activities of the motor tract, and have no distinct connection with consciousness. Thus, when I involuntary turn to glance at something, the movements of the eyes and those of the exterior muscles of the head, trunk, and legs, are all co-ordinated by the optic lobes, and I am conscious of the act as doing it, without the intervention of volition.

With the various associated movements the present investigation has no concern ; but the attention of the reader may well be called to the one important fact that the intellectual and perceptive centres are also centres of volition, by way of emphasizing the special connection between causation and volition, pointed out in a preceding paragraph, and of showing that that connection, so far from resting upon metaphysical grounds alone, is a necessary result of cerebral structure. The anterior lobes may, therefore, be regarded as the ganglia of the understanding and of the will—that is to say, as having the double office of cognition and volition. They are groups of ideo-volitive centres.

These positions as to the function of the anterior lobes are demonstrated both by experiment and observation, and are, so far as I have experimented, common to all animals. If in a frog the anterior division of the brain is cut away, and the

section is skillfully performed, the physical functions may remain in their full vigour for years; but the animal will sit unmoved, neither sees nor hears, and must be carefully fed at intervals. It will swallow when nutriment is introduced into its mouth, but has no perception of nutriment placed directly before it. On peripheral irritation it will jump and walk. On contact with water it performs the associated movements concerned in swimming. But if left wholly to itself it sits motionless, and would sit so until it perished of absolute starvation. Yet, when it is placed upon the back of the hand, and the hand is very slowly turned, so as to create a tendency to slip off, it adjusts itself to the inclination by shifting the position of its fore paws; and if the turning of the hand is continued, it mounts upward, with regular movements of the limbs, until it has adjusted itself on the edge of the hand with the precision of intelligence. By this experiment, carefully conducted, the animal may be made to circumnavigate the hand without a single accident. A full description of it occurs in Göltz's *Beiträge zur Lehre von den Functionen der Nervencentren*, published in 1869. In the summer of 1870, during a somewhat protracted residence in the country, I repeated and verified the experiments of Göltz with toads, squirrels, rabbits, kittens, and puppies, with these general results to scientific and experimental psychology—that, first, in the anterior portions of the brain are invariably situated the centres of ideo-volitive action and of consciousness; secondly, that the spinal cord is one of the great centres of instincto-motor and associated movements; thirdly, that the cerebellum has distinctive properties of the same type, though of a higher order; fourthly, that in the middle and posterior portions of the cerebrum are situated centres in which the instinctive impressions of the spinal cord are agglutinated into imaginative, moral, and spiritual conceptions, on the one hand, and into social instincts on the other. In a recent dissection of the brain of an idiot, who had lived a life of nearly perfect absence of ideo-volitive action, I was enabled to verify these conclusions. The anterior lobes appeared to be merely rudimentary, the pyramidal bodies were comparatively undeveloped, and the striated bodies had less than three-fourths the usual volume. The coronal centres were also apparently rudimentary in their development; but there were no special deficiencies of development in the spinal cord, in the olfactory bodies, or in the cerebellum, except that a section of the former showed the anterior white cord to be considerably smaller than usual. I subjected thin sections of the cortex of the brain and a thin transverse section of the

spinal marrow to examination under the microscope, at 300 diameters; but, although its structure was comparatively coarser, the nervous tissue presented no pathological indicia. The idiocy was in this instance inherited, and in other members of the family, and even in those of apparently high intelligence, on glancing across the face from a lateral point of observation, a little behind that exponent of the hereditary taint, the idiotic contour was distinctly visible.

Without any distinctly morbid condition of nervous tissue in general, this man was an idiot simply from deficiency of the anterior lobes of the brain, and exhibited scarcely more consciousness or ideo-volition than an animal in which the anterior lobes have been removed. It is necessary, therefore, before proceeding further, to correct the view of Dr. Ecker, that the cortex of the brain is the lamina of consciousness, and to limit consciousness to the convolutions of the anterior lobes.

(*To be continued.*)

PHYSICAL DEVELOPMENT.

"EDUCATE a woman and you educate a race," is another way of expressing Mr. Bert's words: "When you educate a boy you perhaps educate a man; when you educate a girl you are laying the foundation for the education of a family, physically, morally, and mentally!" We are a mystery to ourselves, and but for the obligatory sense of living out our threescore years and ten that seems born with us, we might treat life with less importance. We believe, however, that it is a common consideration how we may fulfil this obligation in its truest meaning, and hence we look around us for the attractions of comfort, pleasure, and happiness in our lives, and the easiest mode of obtaining the same. At the age to which we are particularly alluding in this present article, we find the bright star of hope and anticipation reigns supreme in a girl's life as well as a boy's—all too, with their own ideals of what their future will be to them. But how many out of every ten place the key-note of happiness where it belongs? Shall we be right in saying the majority do not think what their health really is to them, and hold it lightly and indifferently? We are afraid such is the case. Providence is blamed for innumerable human ills it has nothing to do with; for, like the honest deacon, many people believe in taxing Divine Providence with every evil result of every violated law of health. Try to bring music out of a musical instrument

that has broken strings, and what is the result? The same as is found with this "human harp" of ours (as it has been termed) that possesses its "thousand strings," which when one single string is out of tune will spoil the harmony of the whole number of strings around it. We assert, then, with reason, that the growth and development of childhood is as essential and necessary in a physical as a mental sense. Few people live as long as their vitality promises, and one of two ways may be adopted to lessen it, either gradually or suddenly. And as one physiological writer says: "Every time we violate a law of health, we break down the constitution. Each cold that settles on the lungs, makes the lungs weaker than they were before, and less liable to withstand exposure. The more we sit in a stooping posture, the weaker the spine becomes, and the more difficult it is for the shoulders to take an erect position. If we live out the full length of our constitutions, we must obey the laws of health."

When we say that a graduate from any of our women's colleges should, like the graduate of a German university, be as much improved in body as in mind, we know we are saying a great deal, but in completing such a course, they should be fitted for the active duties of life. This involves, as primary and fundamentally, a healthy and vigorous body. It is gratifying to find that at Girton great stress is laid upon the value of the tennis-court, as part of the collegiate system in the education of its students, and on the cultivation generally of physical exercises, which are, it appears, vigorously pursued. Attention to muscle training, early to rest, loose garments, and warm flannels worn next the skin, strong shoes and plain food, are points that need as much thought as how far shall the girls go in Algebra, Greek, and Latin during the term.

Take a peep into the play-yard of a boys' school. Here you find during the play-hour that the swings are all going, and several of the masters are joining and half directing the fun of leaping, running, scrambling, laughing and shouting, with no thought of anything but play, and the result does good to the lungs and the muscles, to the blood—which circulates freely—besides being a stimulus to the mind.

Now we will go into a girls' playground during play-hour, and we see groups of feeble, pale, languid girls dawdling about. The swings are locked up, and look dusty, because the teacher considers it "unladylike" for girls to swing and run about. She does not know that the elastic movements of a graceful woman, the buoyancy of her step, and the dignity of her bearing are the result not of lessons on deportment exclusively, but of much free and unchecked activity in youth.

The girl who can ride and skate is the one who forms and retains a graceful figure; not the one whose only idea of locomotion is to walk with self-conscious stiffness for a quarter of a mile along a paved street.

One mistake that many well-intentioned persons make is the idea that, provided there is plenty of walking exercise during the day, that is all that is needed to keep up a proper physiological tone; but this, strictly speaking, is not the case. To merely take exercise with the lower part of the body is allowing the upper part to fall into weakness and deformity, and the result is that the arms become weak and inactive, the shoulder-blades become round and unshapely, the chests become thin and flat, and the vital organs are correspondingly weak and uncertain in their strength and action. To outbalance this state of things, we must provide exercises which will counteract this one-sided way of taking exercise. We must have more archery, lawn-tennis, rowing, riding, swimming, games of balls and grace-hoops, and battle-dore. Looking after and playing with animals makes a pleasant variety of outdoor exercise for girls especially, and many of the above would do equally well for boys instead of cricket and base-ball.

Where we cannot have outdoor exercises without stint, the home gymnasium should be so arranged that girls as well as boys may use it. We speak of the importance of girls having these opportunities because of their natural tendency to curl themselves up on the sofa and read, or stoop over an embroidery frame, instead of exerting themselves to take a regular amount of daily exercise. Then, too, very often you find that when the little girl comes in from school, if she has not a pile of school books to wade through, she is set down to needlework, which, though useful and necessary as an occupation, becomes monotonous and wearisome to the young, active brain. The greatest objection, however, to the work is the position or stooping posture which is generally indulged in, being as it is the reverse to hygienic, and ought hardly to come under the classification of exercise though it is often found there. The characteristic boy is always on the move, and working with one or more of his muscles.

Even in the nursery there are the evils consequent upon following the fashions in the wardrobes of young children, so that exercise to them comes less beneficially than it otherwise would were health, and light, loose clothing insisted upon; hence the result is that a great majority of our daughters grow up with the one idea of exercise, that kind we have before remarked upon—walking. Any muscle or organ of the body

if compressed, becomes as weak and as useless in that condition after a time as through inactivity. What other goddess wields so much influence over her wide area of slaves as fashion? Weakness of the lungs, weakness of the action of the heart, weakness of the digestive organs, as well as the vital organs, simply are traceable to fashion. Are the muscles and the vital machinery of girls made of different materials to that of boys, to make them need less thought displayed in their development? And is it so satisfactory because they have already been called the weaker sex that they are to fall martyrs to the cause of weakness? Many parents apparently seem to think so, and forget that girls have muscles that need developing, lungs that want feeding, and nerves that require strengthening.

We are of the opinion that as our girls are everywhere competing with their brothers in various branches and professions, they need more than the mental preparation to make their work a success. If boys gain a good physical foundation (without which they cannot make a complete success) is it rational to think that the fineness and quality of a woman's organization is going to stand all this strain unless she first realizes the importance of building up a strong physique by some other means than by remaining indoors, and allowing her muscles to lie idle and inactive? Another point that bears upon health, and has much to do with the absence of it, is the careless and even thoughtless habits children are allowed to get into in regard to what they eat, or more properly speaking, nibble upon, whenever the fancy inclines them; and thus destroy their natural appetite by sweets, rich cakes, and pastry that is exceedingly injurious, the consequence being, especially with girls who take but little exercise, that they become "faddy" and particular over their food, and cannot eat at the proper meal-time, and get out of order without knowing why. This evil may be altered by simply making the young sufficiently familiar with themselves and the conditions on which the healthy action of the animal economy of their bodies depend. And in proportion as they consider this matter and its importance, they will become anxious rather to take care of health when they have it, than first to lose it, and then exert themselves to recover it; for health is that which makes your meat and drink both savoury and pleasant, else nature's injunction of eating and drinking were a hard task. It also makes exercise sportive, and walking the enjoyment of liberty. It preserves the verdure, vigour, and beauty of youth. Without the blessing of health, sleep fails to become a restorative; exercise becomes a toil; walking a burden. If such, then, be

a true picture of the opposite conditions of health and disease even in the young, what stronger inducements can any one require to give an interest in the study of anatomy and physiology, seeing that ignorance in these subjects gives untold misery and pain?

Combe says the greatest blessing a person can receive is a sound body and a vigorous mind ; and to keep these in a good condition when possessed, a person requires a knowledge of the physiology of the mind as well as the body ; both are so intimately connected that the study of one should go hand in hand with the other.

The law of exercise as influencing nutrition and functions of the body, apply equally to the bony system ; for if the bones are exercised in youth, then active nutrition goes on, and they acquire dimensions, strength, and solidity. If they are not exercised, the stimulus required for the supply of blood to them becomes insufficient ; imperfect nutrition takes place ; and debility, softness, and unfitness for duty follow. This cause of defective formation is most active, and most commonly seen in the bones of the spine in growing girls who are denied free exercise in that part ; and the consequent weakness in the bones and cartilages, as well as in the muscles, is a very frequent cause of the swollen joints, and curvature in the bones of the limbs in young children ; while the benefit arising from exercise and diet is observable in the solidity of the bones, and the result of active nutrition in building up the system. But if there is no exercise in any part, there is no local stimulus to attract a large supply of blood or abundant flow of the nervous fluid ; there is no activity of nutrition, no perfection of development, and no vigour of function. Hence in partial exercise there is always predominance of power in those exercised parts over others. Combe compares the arms of a blacksmith with those of a dancing-master as an illustration. No one with common sense will expect great nutrition and great energy to follow inaction, except where that inaction is the result of a rest for awhile from active life. The more the activity of the child, the greater must be the supply of nutrition ; and the greater the supply of nutrition under the above circumstances, the greater the vital power. In early youth, when every part teems with life and activity, and is almost hourly acquiring an increase of dimensions, the nutrient system is in a state of unceasing and powerful action, and a rich and abundant supply of food is indispensable to health, and the keen and vigorous appetite of a healthy child illustrates the need of nature at this period of life.

Inaction implies almost stagnation, and as there is but little

waste going on in the system during inactivity, but little nourishment is required.

Sir John Sinclair mentions the fact that the bones become harder and tougher in persons trained to use their muscles, and thus are less liable to blows or accidents. Invalids and literary men suffer much from excess of action of the brain, and deficiency of action in the nerves of the skin, muscles, and bones of the body. The nervous stimulus which is required in digestion, and to the health and warmth of the skin, cannot be provided when the brain is too exclusively exercised in thinking or feeling. Hence where children, and particularly girls, who are more confined to the house than boys, are reared in large towns and cities, then a well-adapted selection of indoor exercises are capable of yielding much benefit. Wooden dumb-bells, clubs, wands, bean-bags, extension or Swedish movements, swings, &c., can all be engaged in with corresponding vigour, enjoyment, and enthusiasm, if taken without any competing bias or pernicious rivalry between girls of unequal power; exercises of the various kinds take away the tendency to listlessness and moping, and give in place brightness, activity, alertness, suppleness, a quick and steady nerve to act, and a keen-sightedness.

The great hindrance to permanent health in both sexes to-day is not the objection to mental work, but the little time that is afforded for the effort of cramming. If the high-class competitions were only stretched over a longer period of years, or if the physique of children were only considered of primary importance during youth, the physical foundation that would then be established would assist the brain in her work of mental culture at an age when knowledge would be gained more easily, and with less tax upon the system. J. J.

OUR BRAINS.

Supposing the upper half of the skull detached, the brain, as looked down upon from above, would be seen to present a bilateral conformation, the two halves being equal in size and in the disposition of the elevations and depressions of its surface. These two halves are, however, united into one organ by a broad band of nervous substance, which, in the middle of the brain, passes across from one side to the other. In the centre of the brain spaces exist which are designated ventricles. These contain a serous fluid, supposed to serve the purpose of equalizing the pressure of the atmosphere upon the vessels. Besides this division into two parts, denom-

nated the right and left "hemispheres," there are various furrows or fissures dividing the brain into several subordinate regions. The brain, taken collectively, was by the older physiologists termed the *sensorium commune*. The twofold form of the brain has given rise to the theory of duality of mind and other questions in cerebral physiology, to be hereafter brought under notice.

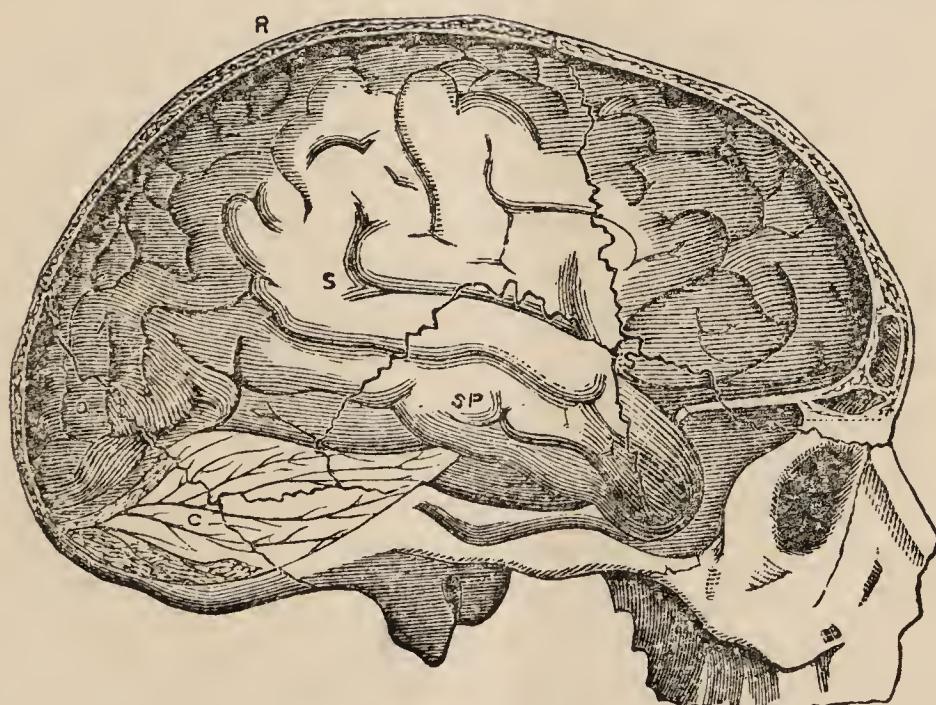
The external surface of the brain is marked by elevations and depressions "called convolutions," and *sulci*, or furrows. These may roughly be compared in appearance to a crumpled up silk handkerchief, an arrangement by which the extent of its surface is greatly augmented, whilst more closely packed away. An important end is thereby attained as the outer surface of the brain consists mainly of nerve-cells, the number of which thus comes to be almost infinitely multiplied. These nerve-cells are the primary and most essential element in the structure of the brain; thence proceed the countless fibres, which convey nerve-force to all parts and organs of the body. When it is borne in mind that each convolution, as already stated, consists of several layers of these minute microscopical cells—in some parts as many as eight layers—imagination fails to conceive their actual number. In the less cultivated races of men, the convolutions are smaller than in the brains of men of high intellectual culture.

The under surface of the brain offers to view several considerable protuberances, and parts of more importance, as far as life is concerned, than are those presented on the superior aspect of the hemispheres. Hence are to be traced the spinal cord, and the other nerves and nervous centres, which rule all the voluntary muscular movements of the body, as well as the involuntary acts of respiration, the process of circulation, &c. These essential or fundamental parts may be traced downwards in the scale of animal life, at each several step, some one or other of the higher structures being as it were dropped out. In conformity therewith, the mental or psychical manifestations in animals gradually subside into the simple vital motions of amoebæ and other low organisms, and by an inverse process we may trace upwards mental evolution or development of psychical conditions through the animal kingdom.

"The brain," as Dr. Ferrier expresses it, "as an organ of motion, sensation, or presentative consciousness, is a single organ composed of two halves: as an organ of ideation, or representative consciousness, the brain is a dual organ, each hemisphere complete in itself." Thus, it has been seen by experiment and in pathology that one hemisphere has been

removed with the effect of paralysing one side of the body, while the mental operations have remained complete. The following case in point is related by the eminent Italian surgeon, Signor Porta. "In consequence of a severe accident, the whole of the right hemisphere was lost, followed by unconsciousness for a few hours, after which the patient recovered his senses. He remained in the hospital two months; the skull—the wound—became fungous, but healed in about six months" (see *The Lancet* of September the 6th, 1873). The writer once met with the case of a patient who died after a prolonged bodily illness, during which no signs were manifested of impairment of the mental powers. After death it was found that the structure of one hemisphere was wholly changed into a semi-fluid gelatinous substance.

The weight of the brain of individuals eminent in literature, art, and science has been noted and tabulated. Many of these have shown excess over the average, as in the case of the distinguished naturalist, Cuvier, whose brain exceeded the standard by fourteen ounces. On the other hand there have



been those who have stood, in intellect, above the crowd, but who have possessed remarkably small heads: notably was this the case with the great Duke of Wellington, and with Lord Byron. At the same time we meet constantly with persons who possess a large mass of brain, but do not exhibit intellectual power beyond the *οἱ πολλοί*.

As a rule, however, size and shape of head is commonly and rightly associated with the degree of intelligence or mental power; but the physiological activity of the brain is not exactly co-extensive with its psychological functions.

The brain of a lion is relatively bigger and heavier than that of a cat, yet we cannot say that the intelligence of the former animal is higher in degree than that of the latter. "Differences of size of brain, therefore, do not necessarily imply corresponding differences in degree of intelligence; the brain being likewise an important centre of sensori-motor activity, its size and weight in various animals bears a relation to the size and weight of the entire body; brain-mass and body-mass are correlated to each other."* In the lower animals, with organs as fully developed as in man, a wide difference is to be looked for, a difference widening as we descend the scale. It is not, however, intended to affirm that brain-power and mind-power are convertible terms, or the one the measure of the other. As Dr. Calderwood observes: "A certain homology of brain structure up the whole scale of animal life will be freely admitted as scientifically established. In accordance with this homology, however, the brain of man is recognized as beyond all dispute at the head of the scale; yet it is assuredly within the scale of animal life, for no one doubts that man possesses an animal nature, though most will refuse to admit that he is nothing more than an animal."

Mr. Romanes † observes: "The relation of intelligence to size, mass, or weight of brain is a perplexing matter when we look to the animal kingdom as a whole; for although there is unquestionably a *general* relation of quantitative kind, it is not a constant relation. Even within the limits of the human species this relation is not so precise as is usually supposed; for neglecting particular cases that might be quoted of men of genius not having particularly large or heavy brains, the converse cases are perhaps in this connection more remarkable, viz., those of feeble-minded people having large and apparently well-formed brains." "Thus it was shown at the International Congress of Psychologists at Paris in 1878, that idiocy is compatible with large and apparently well-developed brains—the amount of grey matter, in one instance, being 'enormous.'" In the lower animals the mere amount of brain substance furnishes but a very uncertain index of the level of intelligence reached. Besides size or mass we must take into account structure or complexities. "Throughout the vertebrated series of animals the convolutions of the brain—which are the coarser expressions of more refined complexities of cerebral structure—furnish a wonderfully good general indication of the level of intelligence attained; while in the case of ants,

* W. Turner, in West Riding Lunatic Asylum Reports, vol. iii. p. 2.

† "Mental Evolution in Animals," pp. 44-46.

according to Dujardin, the degree of intelligence exhibited stands in an inverse proportion to the amount of cortical substance, or in direct proportion to the amount of the peduncular bodies and tubercles." These structures being central and deep-seated in the human brain.

The proportion of brain to body is greater in infancy than afterwards. Thus at birth the proportion is 1 to 5·8 in the male, and about 1 to 6·5 in the female; at 10 years of age it is about 1 to 14; at 20 years 1 to 30; later, about 1 to 36, after which the relative decrease is slight. There is but slight difference as to weight between the brain of the human male and female, thus the average weight in the male European is forty-nine to fifty ounces; that of the adult female* is from forty-four to forty-five ounces.

In the order from above downwards, after the consideration of the structure of the brain, we come to the Spinal Cord, or spinal "marrow." This is virtually a prolongation of the brain, into which merges the bulbous enlargement, called the *medulla oblongata*. In this are the nerve-cells and roots of the nerves that control the action of those most important organs, the heart and lungs. It has been called the *nœud vital*, or the "vital point." It is at this point that the effective blow in felling an ox or horse with the pole-axe must be inflicted, the point of the implement, if the stroke be deftly dealt, passes instantly through the whole mass of brain to the *nœud vital*, and the animal drops, as if struck by lightning.

There is another important feature to be noted in the medulla oblongata. Herein occurs a transposition as regards the white and grey nervous matter. The grey matter forms the external layers of the brain, but, in passing downwards, the grey becomes the inner, and the white the outer columns, of the spinal cord. From the spinal cord proceed the nerves, distributed to the muscles of the trunk and limbs, as well as those which confer sensibility on the skin. These nerves are in pairs as they emerge from the cord and pass out at the sides of the bony column of vertebræ, the spine. There are thirty-one pairs; each pair springs by two roots; one from the front of the cord, the other posteriorly; the one a motor root, because, as already pointed out, it is distributed to structures that move; the other sensory, because supplying parts that feel; thus, if the muscles supplied by the anterior root be irritated, contraction of muscles takes place—if the posterior root be touched, pain is deduced. Besides this functional division of the spinal nerves there is a close connection by

* Quain's "Anatomy," vol. ii. p. 580.

branches with the grey or non-medullated nerves; those, namely, of the sympathetic system, by which means the several parts of the body are brought into unison of action, and the muscles co-ordinate in their several groups for the maintenance of the life of relation.—*The Science Monthly.*

PERFECTABILITY.

A LECTURE BY JOHN MCKEAN.*

MAN may be likened to one of those large and beautiful musical instruments, the various parts of which may be compared to the human mind. If it is necessary to know and understand ourselves, we should make use of the science of phrenology, which would enable us so to do. If we did so, a large amount of the misery and pain in this world would give place to happiness and pleasure; therefore the study is of great importance, and worthy of consideration by all. We had all seen the instruments which were capable of giving such pleasurable emotions; such instruments were made up of several parts, and man was also filled with similar organs.

He considered that phrenology was of such importance that it ought to be the Alpha and Omega of all education. Without a certain knowledge a young man or woman cannot understand himself or herself or know their own powers; and if many are led astray and go wrong, it was because they do not know the mistakes we are all liable to make in life. Sir James Clarke, physician to the Queen, said the study and practice of medicine and the human body was a benefit to mankind, and was next in importance to preaching the gospel; and it may be said with equal truth that no employment is more worthy than that of the phrenologist. Next to the gospel, no knowledge is so important as that imparted by a study of phrenology, and it would be a grand thing if we would all endeavour to understand ourselves.

During the twenty years I have studied this science I have seldom met with really good proportioned heads, and well balanced phrenological developments. During that time I have visited nearly every town in England, and have examined thousands—some hundreds of them very minutely and carefully, and have met with some amusing examples of peculiar developments. I have met with objectors to the science, and some of the objectors have laid themselves open to serious blame, because they have not really studied phrenology. Many often, I am afraid, have too much vanity, and

* Delivered in the Langney-road Wesleyan Schoolroom, Eastbourne.

have not sufficient manliness to acknowledge how ignorant they are of the subject they have not studied. People, as a rule, in judging, are too much liable to say in an off-hand manner they do not believe in such and such things. If we wish to be considered reasonable beings, we ought to be able, before giving an opinion, to weigh and investigate the matters for ourselves, and if we do not do so, I consider we forfeit all right to be considered reasonable beings. But a great many of the objections to the science of phrenology are like those of a medical man I spoke to some time ago. I soon discovered how very little he knew about the subject. In explaining the ground-work and bases of phrenology, I asserted that man was an animal, and that his powers are dual, and that the organs of the brain are double. His contention was that one half of the brain was larger than the other half; but that can be easily explained, because no organ of the human body is equally developed. It is found that one lung is larger than the other, and the same remark applies to the hands, one generally being larger than the other. In explaining the very alphabet of phrenology, he said he did not understand that. I look at this phrenological head (standing on the table) and find that on one side it is covered with labels on the several leading faculties, and on the other side you will observe that the head is labelled with the names of the principal organs, and is also sub-divided, showing each faculty. The gentleman I have named was quoted as an authority against phrenology, and as one who did not agree with the science. I asked him if it was reasonable to allow himself to be put up as an opponent, when he had studied the subject so little. To another medical gentleman, with whom I had some conversation, I gave some proofs of the truth of science, to the best of my ability, and read his character. He said : "I do not dispute your ability ; but you must be aware that you are judging from physiognomy instead of phrenology." I must confess I know very little about physiognomy, and it occurred to me as I came along that I would show my audience that my delineations of character are not from physiognomy. We are to have a lecture this evening on phrenology, and I thought I might prove that I drew my deductions from phrenology alone by being blindfolded myself when I make an examination of the heads of any of the audience who chose to come forward for the purpose at the conclusion of the lecture.

I will now relate an incident that took place in France a little time ago. The Medical College of France, many years ago, thought it would be wise to expose what they considered

to be fallacies of phrenology, and they deputed M. Vimont, one of their most able members, to prepare a paper to refute the science. He collected some skulls and several cases for the purpose of investigation, but at the end of the first year he came before the members, and stated that his mind was not prepared to give a decision, but required another twelve months in which to prepare his papers. At the end of the second year he came before the members again and confessed himself a thorough believer in the science taught by Gall and Spurzheim, and said he was prepared to own that all who had taken the trouble to study the science must have been thoroughly convinced of its truthfulness and usefulness.

The bases of the science are very simple, so that the youngest person in this audience can understand them. What are they? First that the brain is the organ of the mind. Philosophers have always been in doubt as to the seat of the affections; some have said that it is in the liver, some in the heart, and others in the stomach. I do not know that it is altogether a figure of speech when we speak of the "heart of man" as the seat of the emotions and affections. But the heart of man has no more to do with the thinking powers than the liver or stomach. It is true that there are more nerves in the heart than in any of the other organs, but the seat of the faculties and affections is placed in the brain. Secondly, the brain does not act as a whole, but as the seat of the various faculties, and has as many organs as there are faculties in the mind of man. There are no two heads perfectly alike in shape, consequently no two characters are exactly alike. We never saw two men who thought exactly alike on one subject, because their various faculties are variously balanced. Sir Wilfrid Lawson, whose portrait is now before us, has a nicely developed head, and the coronal or top portion is well developed, and there is great firmness of character, showing tenacity of purpose. I think you will all agree that Sir Wilfrid Lawson's phrenology agrees with his history. Robert Carlile, whose portrait is also before us, has an extraordinary development of self-esteem, and he was a writer and publisher of atheistical works, and he thought he was one of the greatest beings in heaven or on earth, and his positiveness of character would never depart from him. It was endeavoured to suppress his self-will, and to punish him, but he went gladly to gaol, and endured much misery. He was very deficient in the organ of Veneration, and this had much to do with the constant troubles he was in. Sir Walter Scott and Godwin, whose portraits are side by side, were greatly endowed with mentality, and had an equal degree of what is called human

reason and wisdom ; but there was a great difference in their moral and spiritual power. Sir Walter Scott was very large in those powers which gave him great reverence and made him very conservative, and made him wish to perpetuate all things, a desire with which all his writings are permeated ; he had a great reverence for royalty and persons in high positions, and delighted in all that was antique. Godwin was the antitype of Scott, and had nothing conservative about him, but went to the other extreme, and all his writings are marked with a desire to bring down and level up. This shows the truth of the existence of a second brain, and that the brain does not act as a whole, but depends upon the separate parts, and that each part can act separately. This might be proved from many circumstances in life, if time would permit. Thirdly, there is the size of the brain to be taken into consideration. Other things being equal, this denotes power, and this is a rule that runs through the whole of nature. A large forehead is desirable, of a good quality with reference to the various organs. Like two pieces of timber, if one is thicker than the other, and the same quality, it will bear a greater strain than the thinner one ; and this is true as regards mind. The larger the development of the organs of the mind, the greater the power of the brain, other things being equal. We have various proportions of brain, and we shall come presently to a contrast between Bradlaugh and Spurgeon. Fourthly, we say that whatever power is exercised becomes strong, and if neglected becomes weak ; this is seen throughout all nature. The tree that is in a shaded place, and is not exercised by the winter winds is not so strong as the one exposed to them. Here we have an important lesson to learn. How is it that we exalt human intellect, and that we pay so much attention to the education of the intellect ? Human reason alone will not lead us in the heavenly way. I wonder how far we are exalting human reason at the expense of religion. I fancy that as a nation we are making a great mistake in this respect. In bygone ages the animal powers were more thought of than the intellectual, and men were more inclined to eat, drink, and be merry. It is not fashionable in these days to do many things that were formerly indulged in, but we find that men have gone from one extreme to the other. We have exalted reason and intellect as much as our forefathers used to exalt the mere animal powers. We have to learn something higher than mere mental or intellectual enjoyment. As a nation we have to learn that man's highest powers are placed furthest from our bodies and nearest to heaven, and that our noblest powers are placed on the crown of our head, and that we should exercise our moral and spiritual powers more.

Some present will remember that I gave a lecture some time ago, in which I drew a contrast between the heads of Bradlaugh and Spurgeon. The results were important, as marking the difference between the intellect and the moral powers. Since I gave that lecture, as most of you are aware, Mr. Bradlaugh has visited Eastbourne, and during his stay here I had an opportunity of examining his head, and knowing I was to have that privilege, I prepared myself for some very serious conversation with him. After I had examined his head several times over, I was struck with the fact that he has little moral development, but is very large in intellectual powers. I recollect when I went to a Sunday-school, my teacher told me that freethinkers were free from thinking, but that was a great mistake; I think they do too much thinking, and they cannot accept Scriptural truth, but must set up a morality for themselves. They will not accept Scripture truth by a spiritual eye, but if they would understand Scriptural truth they must do so by spiritual power. If they cannot find God by reason, they will say, there is no God. That is one of the most important points that can come before a Christian assembly. It is one of the most distressing things I can think of, that so many learned men are tainted with scepticism and infidelity of one sort or another. I think, as a rule, Christian Churches are not sufficiently in earnest in this matter, and should be given to understand that where infidelity exists it is of no use to ignore it altogether. I think we are called upon to better ourselves, and seek to understand why this thing exists and is in our midst. I might state that I found, while Mr. Bradlaugh was in this town, that he was small in the moral powers, and he said he compared himself with some of the heads and faces of the South Africans. I will admit that there was some similarity between his head and the skull of the South African which I have here on the table. On the whole, the man who owned this skull had a well-developed mind; but I think the orbital and the coronal are not so large as those of the Abyssinian, but quite as large, and perhaps larger, than in some educated men of the present day in the moral powers, but smaller in comparison with the reasoning powers, and I consider the mind is not so much balanced as that of Bradlaugh. We must not content ourselves with mere moral power being developed over the intellectual, nor that the intellectual should be larger than the moral. This is the secret of Bradlaugh's scepticism. He is largely developed in the reasoning powers, and if he had had a better development in the coronal or moral region, it would have put him right; but he is wanting that which makes a

thoroughly religious man. I told him he had no business on a religious platform. If I were to write anything on political matters without possessing good reasoning powers, and should submit it to one who was only strong in the reasoning powers, I should be doing a foolish thing. At the same time, if I were to write anything on moral or spiritual life, and were to submit it to Bradlaugh, knowing that he is small in such powers, and unable to grapple with such things, I should be equally foolish. For an argument on this subject, Bradlaugh said : "If you go up the country, and into some of the villages, you will find superstitious people who will point out a large hole in the ground, and will say it is a devil's hole because it has never been fathomed ; but a scientific man, with his plumb-line would fathom the hole and settle it. Take your reason, and fathom what is called Scripture truth, and you will find out what it is." I admitted to him that whatever could be grappled with by human reason should be investigated. Bradlaugh could grapple with such subjects, but he could not with spiritual matters. I don't think he answered me at all, and forgot that those who were very small in the coronal or moral region were unable to reason on such matters. There is a proposition that whatever is large will be powerful and show itself. If we find that any power is large, and that it is asserting itself over our spiritual and moral nature, let us be very earnest and jealous of ourselves.

In this diagram the heads of a man and a lion are compared. The lion has not much moral power, as the organs are exceedingly small. The alligator and crocodile have still smaller coronals. The dog has a little more morality, and a certain amount of cautiousness, and it has a head much superior to the alligator or crocodile. The lion has not very much self-esteem, and I don't think you would ever find a lion very proud or cross. We find that in human beings where these powers show themselves they will assert themselves, but they do not always assert themselves in the same way. Nero was very small in the reasoning powers. You will see that Nero has a cap on, and I cannot find a portrait without the cap, but no doubt the organ of self-esteem came a long way into the cap. Socrates was the opposite to Nero. We have here the heads of Markwick, and Rush, the murderer. Rush was small in the moral powers, but large in the combative and destructive organs, and consequently was a murderer. Markwick was smaller in the intellect, but larger in the moral powers. Carey, the Irish informer, had a very large head, but unfortunately the bulk of the brain was behind. It is a remarkable fact that we have a great many men, especially in

northern towns, who are under the influence of Bradlaugh; and also that a great many men of the more refined classes and more intelligent minds who are similarly tainted with scepticism, and are being led away by such men as Herbert Spencer, and such men put themselves up as authorities on religious and spiritual matters, which can be known from their writings, and on one page we read that they are entirely ignorant of the first great Cause, or how the universe was called into being, and that they know nothing of the government of this great universe, with its suns, stars, planets, spheres, and systems, which are all arranged in such wonderful grandeur. They confess their entire ignorance of them, and yet we find them arrogantly thrusting their dogmas upon us, as if they understood everything.

We must remember that in phrenology we have an umpire in our midst, and if any new doctrine is presented to us, let us take phrenology, and understand what is the shape of any head, and then we shall understand why such strange doctrines came forth. It should be our duty to collect information respecting character. It is not necessary that an individual should be large in the coronal, but it is necessary that we should place our best faculties where God had placed them. Phrenology has discovered that the Creator has placed them in the highest position, and we should give honour where it is due. And if we are inclined to deep learning, let us make sure that our spiritual strength is keeping pace with our intellect, so that we may grow up with a uniformity of character. This is how perfection of character may be arrived at, and only so. Let us cultivate whatever we find deficient in what is good and right; and let us praise God for the wonderful blessings bestowed upon us. May His Spirit illuminate our minds, and may all we think be divine.

THE MORALITY OF HAPPINESS.

WE recognize the necessity of a more thorough altruism than that which merely considers the rights of others. That a community should progress as it ought, each member of the body social should feel that it is a part of his personal duty to consider the well-being of the rest. The weakness and the want of skill, the ill-health and the imperfect education of his fellows are injurious to him and to all. In such degree as weakness or want of skill affect the productive power of some members of the community, the comfort and happiness of the stronger and more skillful are affected. The weak and in-

efficient members, who cannot provide for themselves, must be provided for somehow. The trouble to the community which would arise from any plan for leaving the weak and unskilful unprovided for, would be much more serious than the loss arising from the efforts made to help them. But these efforts being so much deducted from the general efforts of the stronger and more skilful members of the body social must be counted as loss. So that it is the interest of all to see that there may be as few weak and unskilful persons in the community as possible.

In like manner the sickness of our fellows is a matter in which we are interested. Apart from the necessity of restoring the sick to such health and strength as may fit them to take their part in the work of the community, the illness of others may bring illness to ourselves. Fever and pestilence, though they may first attack the weak, presently extend their attacks to those who had been strong. If even a man should feel no anxiety on his own account, those dear to him, those dependent on him, or those on whom perhaps he is in greater or less degree dependent, may succumb to such attacks. Considering all the evils, near and remote, which may follow from an epidemic, we recognize the necessity of adopting all such altruistic measures as may avail to diminish the chance of such diseases arising, or to limit their range of action when they have once found footing. No doubt egoistic considerations here seem to suggest altruistic duties; but these altruistic duties cannot be properly undertaken or discharged unless they have become habitual and are referred to a real care and regard for others independently of consequences, more or less remote, to self. Apart from which, the discharge of such altruistic duties will be more satisfying and more pleasant if they are spontaneously undertaken.

Similar considerations apply to education in all its various forms. In other words, we must consider the mental as well as bodily weaknesses, and the mental as well as bodily diseases, of our fellow-citizens. Where those around us are stupid and unintelligent, where they attempt no improvements, where they have little inventive capacity, and little readiness to use even such as they have, we suffer along with them. The mere stupidity of the great mass of most communities with regard to the system of Government they consent to be ruled by, may mean most serious injury and discomfort to all, foolish and intelligent alike. Those who see what is needed, or at least the direction in which improvement may reasonably be sought, yet remain silent in the belief that it is no business of theirs, are as unintelligent as those who stupidly

assent to what—without thinking—they suppose to be good for them, and to be provided for by those who know better than themselves—though often, when traced to their source, the measures in vogue are found to be of no better origin than the body itself which submits to them.

A low standard of intelligence in the community affects the welfare of all, in many different ways. Wrong ideas about the relation of the nation to other nations may seem unimportant in the case of persons who take no direct part in political matters. But in reality a very notable influence is exerted by the community generally on the conduct of those who have charge of political affairs. Wrong counsels in the cabinet may be advanced or right counsels hampered by stupidity in the country at large. Statesmen themselves are not always so wise or often so firm that they are not influenced by prevalent ideas; and so far as mere numbers are concerned, prevalent ideas are likely to be foolish ideas. Fortunately, mere numbers may not suffice to give weight to prevalent stupidity. Many of the unwise are influenced by the observed fact that such and such men conduct affairs successfully, and so are led to support the wiser sort, not through sound judgment on their own part, but from that kind of sense which leads the ignorant to defer to the judgment of the better-informed. But this does not prevent the average intelligence of the community from being a matter of great moment even in political matters—supposed to be guided always by the wisest, despite the true saying that the world is governed with but a small amount of wisdom. What I have here said has no relation to the action of kings, princes, and the like, who in English-speaking communities cannot now injuriously influence political relations, except through the weakness or folly of statesmen. Yet the argument might be strengthened by calling attention to the way in which, even within the last thirty years, our own country has suffered in this special direction, statesmen weakly or foolishly yielding to public pressure, by which the unwise counsels of princes have been supported. A hundred years ago our country saw, in still more marked way, how the average want of intelligence of the many, supporting the stupidity of a king (of alien race, in that case), may go near to wreck the fortunes of a great race. We may hope, however, that no such trouble is in store for us hereafter as afflicted the British people when a foolish people insanely strengthened the hands of a mad king.

In social matters a low standard of general intelligence is a serious evil, which a wise altruism will endeavour to diminish. "I do not mean," I may here say with Mr. Herbert Spencer,

" such altruism as taxes ratepayers that children's minds may be filled with dates and names, and gossip about kings, and narratives of battles, and other useless information, no amount of which will make them capable workers or good citizens ; but I mean such altruism as helps to spread a knowledge of the nature of things, and to cultivate the power of applying that knowledge."

It is hardly necessary to multiply examples. We are confronted at every step by the harmful effects of prevalent want of intelligence. The fire which is intended to warm your room is so stupidly placed that it sends the better part of the heat up the chimney, and creates cold draughts round your legs. Equally obnoxious to the understanding is the window by which you seek to ventilate your room. It is a struggle to open it, a struggle to close it, unless when your head is in the way, when it generally descends in effective guillotine fashion. The carpeting of your room is an absurdity, the papering (apart from any question of beauty), a monstrosity. The gaseliers are so ingeniously arranged that you get a minimum of light, and a maximum of heat and foul air. The chair you sit on seems intended to make you uncomfortable ; as you draw it up to the table you find that the senseless people who plan furniture have provided sharp corners just where your knees are most likely to be caught. If you wish to lie down or to recline on a sofa, you find the head of the sofa so ingeniously padded that while too sloped for reclining, it is not sloped enough for you to lie on it comfortably.* Your child, running in for a kiss from papa, stumbles over a footstool so carefully coloured like the carpet that it did not catch his eyes but his feet, and, falling, is hurt severely by a sharp projection on chair, sofa, table-leg, fender, scuttle, or what not, where no sharp projections are wanted, and none ever should be. In numberless ways miseries, individually small, but effectively diminishing happiness, result from general want of intelligence. " Unpunctuality and want of system " again, as Mr. Herbert Spencer points out, " are perpetual sources of annoyance. The unskilfulness of the cook causes frequent vexation and occasional indigestion. Lack of forethought in a housemaid leads to a fall over a bucket in a dark passage ;

* I fear Mr. Foster refers to that abomination of desolation, the Alexandra Sofa, which certainly for hideousness and utter unfitness for all the uses of a sofa is a marvel of idiotic absurdity. Nine-tenths of our sofa and armchair patterns, however, are " too absurd for any use," as they say in America. Among my own pet abominations I may mention nearly all the methods (save the mark) for curtaining windows, the ridiculous ways in which looking glasses are swung, the preposterously unscientific forms of ink-stands, and some others *quaे nunc prescribere longum*.—R. P.

and inattention to a message, or forgetfulness in delivering it, entails failure in an important engagement."

It is thus the interest of each one of us, and being also for the good of all becomes the duty of each, to be altruistic in regard to the mental progress of the community—"we benefit egoistically by such altruism as aids in raising the average intelligence."

But we are equally interested in the improvement of the moral feeling pervading the social body. The happiness of the whole community is diminished by the prevalence of unconscious ways. In small matters as in large the principle prevails. We are all interested in helping to teach men the duty of considering the rights and claims of others. From the man who hustles others off the pavement or occupies an unfair share of what should be general conversation, to the man who swindles by gross aggressions or serious breach of contract, the products of a state of low average morality diminish the happiness of the community. The aggregate of discomfort wrought by paltry offences is serious though each separate offence may produce but slight mischief. Moreover offences paltry in themselves may produce very serious results. The disobedience of a nurse in some small matter (such as taking her charge to this or that place), may lead to accident affecting life or limb, or to disease ending in permanent injury or in death. In other ways, mischievous results of greater or less importance are brought about by defective moral sense in small matters, while when we consider the effects of want of conscientiousness in business we recognize still more clearly how much we are all concerned in the moral improvement of the community. "Yesterday," says Mr. Herbert Spencer, "the illness of a child due to foul gases led to the discovery of a drain that had become choked because it was ill-made by a dishonest builder under supervision of a careless or bribed surveyor. To-day workmen employed to rectify it occasion cost and inconvenience by dawdling, and their low standard of work, determined by the unionist principle that the better workers must not discredit the worse by exceeding them in efficiency, he may trace to the immoral belief" (well put!) "that the unworthy should fare as well as the worthy. To-morrow it turns out that business for the plumber has been provided by damage which the bricklayers have done." And so daily and hourly do we feel that the moral imperfections of the community are fit subjects for such altruistic efforts as may help to raise the average morality.—*Knowledge.*

FIFINE AND HER FRIENDS;
AN ATTIC CRUSOE.
By CAVE NORTH.

CHAPTER XLII.

AN OLD FRIEND TURNS UP.

As the days passed by and no news came to hand of any disasters at sea, Fifine's buoyancy of spirits gradually returned; for although, in the millinery sense of the term, she "went into mourning" for her husband, and in truth felt a mingled sense of pity and awe at his sudden decease; yet, on the other hand, it was impossible for human nature not to feel relief at the removal of one who, during his brief career, had manged to disgrace every sentiment of the human heart. Although a man in outward shape; and in the faculties of the mind known as intellectual; yet in respect to those grand distinguishing qualities of justice, reverence, goodwill, and the domestic affections, he seemed hardly human. He was, as Bleichroder put it, a moral leper, and ought as such to have been as carefully separated from the rest of society as the real leper is. His death, therefore, regarded apart from the question of his own spiritual welfare, could not be considered as other than a gain to the world; and if so to the world at large, how much more so to her with whom he was considered "one flesh"?

Although Fifine accepted her release sadly, "and snatched a fearful joy," yet it was a joy nevertheless. Barely a week had passed since her husband's mortal remains had been laid in the cemetery of Kaiserstadt, ere every one saw a marked change in her appearance. Her step was lighter, her eye brighter, and the colour was already returning to her cheek; and yet, up to the present, no smile had irradiated her countenance since she had heard the tragic news.

The terrible event had necessarily further delayed the proposed journey to Boulogne, although not indefinitely. Death, although always present, never comes but it comes suddenly and, as it were, unexpectedly—comes, moreover, as an upsetter and deranger of mortal schemes, and too often also as a blighter of human hopes. So it proved in these spring days to the much afflicted Fifine.

It was exactly a week after the funeral, at which Raubvogel had been the only mourner (and it was surmised that he could afford to be, in the sense that the heir to a large fortune can mourn for the death of the only person that stood between him and it, having made himself the snatch-heir of his quondam friend and associate), that that worthy again called upon Leitner, and with great circumstance and mystery began to fumble in an old pocket-book, for something, he said, that he thought might be of value to him and his friends, who were interested in his late fellow-lodger. After an apparent great deal of trouble he produced a newspaper cutting, pasted on a piece of blank paper bearing the date, in pencil, of "June 9th," which he said he

had found in an old pocket-book of Goldwhistle's. It was a paragraph referring to a railway accident in Belgium, and after giving some other details, went on to state—and these particulars were underlined with pencil—that an English lady and gentleman, the sole occupants of a first-class carriage, received such injuries that both subsequently died—the gentleman almost immediately after being extricated, and the lady within an hour—in great agony. It was found from letters, etc., on their persons that they were Mr. J. Ross and Mrs. Ross, of Boulogne, names well known to the young man as those of Fifine's parents.

"So!" said Leitner within himself; "this, then, explains the worthy husband's sudden desire to be reconciled with his long-suffering spouse, and his persistent efforts to get possession of her, and through her, of the property the deceased couple have left! How is it that none of us sharp-witted men smelt out the riddle? It was not for the possession of this peerless pearl—not peerless, however, to him, nor valuable, except as a sort of "document" to which value was attached—that he took all this trouble, but for the gold that he saw within her reach."

So he soliloquised, utterly regardless of the fortune-teller, whose presence, indeed, he had for the moment quite forgotten, so absorbed was he in the contemplation of the bit of paper containing the solution of what had proved so inscrutable a mystery.

How long he would have continued his cogitations it is difficult to say, had not Raubvogel reminded him of his presence by asking him "if he thought the paper was of any value?"

"Oh, I think it may be," replied Leitner; "you may leave it with me if you do not want it."

"Perhaps you could afford—" began the fortune-teller in a mendicant tone. But before he could finish his sentence Leitner broke in with—

"By the way, did you find anything else that might possibly be of value to his relatives. If so, you had better hand them to the authorities."

The fortune-teller, hereupon, became very nervous and fidgety, protested there was nothing but some old clothes, and manifested great eagerness to be gone.

"But the pocket-book you say you got this from?" said Leitner, holding up the newspaper cutting.

"Oh, yes, there's that," replied the other; "shall I fetch it? I'll do so," he added with a sudden very happy thought, and suiting the action to the word.

But Leitner never saw him again; and from an incident that occurred the next day he surmised that he left Kaiserstadt the same night. It was this: An account of the death of Goldwhistle, and some of the attendant circumstances, had got into the *Kaiserstadt Anzeiger*, although mixed up with a good deal of error and nonsense. For instance, it was stated that an English police official had come to the house armed with a warrant to arrest the deceased, and that

he was in doubt whether to take the body, and convey it to London, but finally decided not to do so. It was also stated that a relative of the deceased, draped in black, and wearing a thick veil, went to the house of death and asked to see the corpse, and being permitted to do so, kissed it on both cheeks, placed a wreath of immortelles upon its breast, and so left.

A lady having seen this account in the newspaper, called at the house, and made many inquiries about the deceased, and about the lady who called to see the corpse. As, however, Raubvogel—the deceased's friend, and the only person who knew anything about him—had quitted the house the day before, and as those in the house knew nothing about either of the ladies who came to see the corpse, except that they came with the Doctor, the querist was directed to him. The name was familiar to her, but she hardly expected to see the identical Bleichroder she did, having understood that he had gone abroad many years ago.

The Doctor did not recognise her so soon, but thought the face familiar to him, and while he cautiously interrogated her as to her motive in seeking the information she desired, he curiously ransacked the various pigeon-holes of his memory to see if anywhere there was any odd tag or end of recollection by which he could identify her. She told him that she was an old friend of the Ross family, that she had formerly known the deceased's wife, who had been lost sight of for some time, and that, in short, it had occurred to her that this "relative" mentioned in the *Anzeiger* might be she.

"Madame," said the doctor, "you have not favoured me with your name."

"It is Durrstein," said the lady. "When a child, this man's wife lived with me here for a whole year."

"You know then, that her parents are dead?" said the Doctor, to whom Leitner had communicated the intelligence.

"Yes," said the lady; "from that I gather that you know their daughter?"

The Doctor replied that he did. He told her, moreover, about Fifine's coming to Kaiserstadt, of her search for her old friend, her failure to find her, and her consequent despair.

Frau Durrstein was much moved, and exclaimed: "Poor child! For nearly a year I have been in England visiting my daughter and only returned a few days ago."

She then begged to know where Fifine was, that she might go and see her as soon as possible.

"She is at present within two minutes walk of us," replied Bleichroder, "and if you will permit me I will show you the way to the house."

Frau Durrstein consenting, they at once proceeded to the Prediger House. On the way thither, Bleichroder told the lady how they had learned the news of the death of Fifine's father and mother, and that it had been deemed prudent for the present to withhold the news from her. "I'm afraid now," he added, "that it will no longer be

possible to keep it from her ; but any way it will come with less of a shock from you."

They found Julia's carriage at the door, and on ascending discovered that she had come to take Fifine for a drive, the day being bright and warm, with the scent of growing nature and the songs of birds in the air. They were just coming out of the door, accompanied by Bear, with her demure, Quaker-like look and bright eyes, whom Claus was admiring and joking from the door-way, when the Doctor and his companion approached.

"That is she !" exclaimed the lady to Bleichroder, before the others had caught sight of them. "I wonder if she will know me !"

There was not long any doubt, for no sooner did Claus call the attention of the others to the newcomers by crying out : "Welcome, friend !" than Fifine turned and caught sight of the lady, and after a brief, doubtful, startled look, exclaimed : "Tante Durrstein !" and rushed into her arms.

The drive was postponed, and Bear, with a look of relief, doffed her bonnet and cloak, and went into the kitchen to prepare tea. Claus presently followed her, and it would have done any one's heart good to have seen him caper round the partner of his joys and sorrows, and finally snatch a kiss in pure exuberance of happiness, because, after all her troubles, Fifine had been accorded a cup of pleasure.

Frau Durrstein had intended to spare her the present grief of hearing of the death of her parents if possible, but Fifine asked so anxiously if she had heard anything of her father and mother while she was in England, that she was obliged to tell her the sad news. It grieved her very deeply, especially when she learned the manner of it, although it came with less of a shock to her than it would have done had she not been separated from them so long.

"If I could only have seen them once, and been assured of their forgiveness for my disobedience," she said, when she and Tante Durrstein were alone for a few minutes.

"You may be assured of that," she replied. "They not only forgave you, but deeply regretted their conduct towards you. I have a letter from your mother which shows that they had been making diligent inquiries for you for some time, and were, when death surprised them, meditating a visit to England in order to prosecute their inquiries more fully. Moreover, your father has left all his property to you, which will make you a nice little fortune," added Frau Durrstein.

While this conversation was taking place betwixt Fifine and her old friend, the Doctor was saying to his sister, as he accompanied her home in her carriage: "Hast thou any recollection, Schwesterlein, of the neat face of this fair widow, for did I not understand her to say, in answer to Fifine, that her husband had been dead two years?"

"Yes," replied Julia, "she said so, and I marvel much that you do not know her."

"Who is she ?" asked the Doctor, eagerly. "I seem to know her

face well enough, but cannot recall her to mind. Tell me, therefore, who she is ; you know I have not much memory for these *Frauen-geschöpf* (women-creatures)."

"So it appears," replied his sister.

"I have been trying to think of something by which to place her, but in vain," said the Doctor.

"Think of a *queue de Paris*," said Julia, with a smile.

"Grosse Himmel ! is it she," exclaimed the Doctor, with a queer smile.

"I do not greatly marvel," said Bleichroder, when they had arrived at Schoenberg, "that I did not know Lenette again ; she is wonderfully changed ; I could hardly have deemed it possible for one to alter so much."

"For the better, or for the worse ?"

"For the better, of course !"

"Perhaps," said Julia, "if you had foreseen how life and its duties would modify her character, softening down the harsher qualities, and bringing out the gentler and more human ones, you would not have taken such fright at a bird-cage, as you were pleased to call it."

"And which was, after all, only a kind of decoy that, like the plumage of some birds, changes after marriage. But I wonder she did not recognise me !"

"Oh, have no doubt of that ! she recognised you quick enough."

"She showed no sign of doing so."

"My dear brother," replied Julia, "where is your usual shrewdness gone ? Do you think a woman like that, who has been in the market, exhibits her wares for everybody to see at the first glance ? Because a girl shows her recognition by widely-opening eyes, do you expect a full-grown woman to do the same. Her surprise is exhibited in the very reverse way. I knew Frau Durrstein recognised me because, after her eyes had encountered mine, they turned quietly away."

"Then you think she knew me ?" said Bleichroder.

"Of course."

"And yet would not make herself known to me ?"

"Not likely."

"But why not ?"

"How can you expect it when, after hanging about her, and sighing after her for months, you suddenly took it into your head to make yourself scarce, without so much as saying "farewell," or "God be with you," and stayed away until half your friends had forgotten there was such a person."

"True," said Bleichroder ruefully. "I have been imagining all my life that I was a philosopher, but I see I am only just beginning to learn philosophy."

"I shall see her to-morrow," said Julia, "as it is arranged that I shall accompany Fifine to her house ; then I shall certainly make myself known to her."

"And pray, sister, make a thousand apologies for me," said the Doctor.

"Oh no, by no means," she replied; "you must be your own apologist."

It was not many days ere the Doctor had an opportunity of being his own apologist, nor did he omit to take advantage of the occasion.

CHAPTER XLIII.

Summer passed over with our friends in comparative calm. Fifine spent her time between the Schoenberg and the Prediger House, varied by an occasional visit to the Schwarzbach's country villa with Julia and the rest. Two events only broke the quiet flow of the days and weeks. One was the publication of "The Twelve Apostles." It came out with great *éclat*; for Herr Schwarzbach used his influence with several editors to get early and favourable notices; and these had the effect of causing the small edition which had been printed to be bought up in two or three days; whence followed an urgent demand for more.

The little book was the talk of Kaiserstadt for several weeks, and was the means of bringing Claus and his adopted daughter into great prominence. No one, however, was so much surprised at the appearance of the book as the Professor himself. Naturally enough he was greatly pleased by this tender mark of esteem on Fifine's part; although, with his usual modesty, while recognising his own wise and humorous sayings, and quaint witticisms, he claimed that they owed their whole value to the charming setting that the fair amanuensis had given them.

Nor was Leitner without honour in the little venture. During one of those happy moments of inspiration for which he was noted, he had been struck with the idea of putting into verse Claus Bromm's legend of the Twelve Beakers; and he succeeded in carrying it out to a marvel. Added to Fifine's text by way of prologue, the little poem was a distinct embellishment to the book. It was the author's intention to have given it here, but so far he has utterly failed to transfer the quaint fun and brimming humour of the original German into the harder and less malleable English tongue.

His fair fellow-worker regretted that Leitner was not present to receive his share of the praise which accrued from the publication of "The Twelve Apostles." But the young man was absent upon a business that interested him more—he was on his wedding tour. He and Annette were married according to arrangement at Whitsuntide. The wedding took place at the old cathedral: and on the same day Fafner and his bride were united at Adolf's native place on the Neckar. The two couples spent a few days together under Leitner's paternal roof, and then went away to Switzerland, where they had elected to spend their honeymoon.

Little, therefore, was heard of Nagelmann's quondam lodger for the period of three months—the house of Glückschild and Company having generously granted him that length of time to enjoy his honey-moonshine. An occasional missive was, indeed, received from the bridal pair, but they were all brief, and for the most part

simply recorded a prospective change of address. The end of September, however, saw Adolf and his blooming wife safely nestled in a charming little apartment overlooking the broad belt of garden that divides the old city from its ring of suburbs, and trying to take life earnestly, which they found it hard to do, so much like a huge piece of fun and pleasantry it looked. Leitner complained to his friends that they would not let him settle down and begin to contemplate life as the hard reality it was, so heartily and continuously did they fête them.

"Ah," he wrote to Fafner—for no sooner had he set foot again in Kaiserstadt than his pen was at work telling everything to his heart's chosen brother—"Ah! if you did but know the temptation to which I am subjected. How often has it not been your reproach to me that I took life too unseriously—too much *en Carnivale*. But look you now, when I have given hostage for my good behaviour, and for good citizenlike seriousness, and I try to put my feet down firmly, and with a will, to feel how hard and unyielding the earth is, everybody will throw flowers in the way, and cast music at my feet—our feet I would say—till we literally tread upon air, and have not even time to guess at the hard substantiality beneath."

Fafner was of a different turn, and not all the music in the world, nor all the flowers, could prevent him from bottoming on the hard realities of life. Hence he preached again to his friend the old sermon: "Life is real, life is earnest; it is not a masquerade, nor yet a comedy;"—and so on, and so forth; all of which the laughter-loving Leitner took in serious part, and mused upon, but after all with something of a half-smile, as though he only partly believed it. So true is it, that we do not see through the eye alone, but through the heart also, which colours all things, green or yellow, or rosy red as the case may be, or clothes them in a halo of light and laughter, or in a nebulous haze, or in a pall of midnight darkness.

"I shall arrive at thy sedate way of looking at things one of these days, my dear Fafner," wrote Adolf in one of his letters; "it will come all too soon I fear; meanwhile, therefore, let me enjoy the comedy. And since you desire me to acquaint you with the march of events during our absence, let me begin with our friend Bleichroder. You will remember what I have frequently told you about the disappointment of his early days, because he could not see the true woman beneath the additions of fashion, and his subsequent indifference to the blandishments of the sex—an indifference which he was fain to believe amounted to a positive misogyny. You will doubtless remember also that I told you that this woman-hater was so tricked by the elfish child-god Cupid, that he became enamoured of the fair Undine, and began to frequent the hair-artist daily, and other artists of the person almost as often, till reason was to fear his rivalry with Herzl, especially when the field was made clear for him by the voluntary exile of one obstacle, and the tragic obliteration of the other. Confess that matters looked threatening, and then acknowledge the cunning with which the arch-dramaturge changed the aspect of things almost in the twinkling of an eye, and turned what promised to be a tragi-comedy into a serio-comedy."

Leitner then goes on to tell his friend about the sudden turning up of Frau Durrstein, at once as intimate friend of Fifine and ancient lover of the doctor, and then proceeds : "Imagine, my dear Fafner, all the satire of this *rencontre*. Because the would-be philosopher turned up his nose at this creature when she was young and fair, taking offence because the blooming Eve's daughter was not made just of the pattern he would have, Providence hides her from him for twenty long years, and in another man's bosom, forsooth, until indeed youth and freshness of beauty are gone, and then brings her to his door, and says, 'Behold thy fate !' and he must needs take her, and muse the remainder of his days on his youthful folly.

"For such, indeed, is the turn affairs have taken. No sooner did the grizzled and battered man of the world recognise the beloved of his youth, than he was sensible of the re-awakening of the old flame, and with no more dubitations he straightway threw himself at her feet, and again became her lover, and will in a week's time become her husband. 'Ah,' I fancy I hear my father say, 'It is a proud stomach that does not come down to its bread and butter at last !'"

The marriage took place as announced, and no one was made more happy thereby than the Doctor's sister, Julia. Leitner in due course wrote Fafner all about the event ; but his letter contained nothing that need be given here except a few lines that had reference to another personage of our story. "After several months' silence," he wrote, "The artist has written to me. He dates from New York, whither, he says, he had come with the intention of returning immediately to Europe ; but on more mature consideration he had decided to defer his return, and spend some time in the great North-west. Then he adds : 'The fact is I have had some uneasy dreams and premonitions of evil threatening the one who is to me more than all the world besides, and they preyed upon my imagination to such an extent that I resolved to come home, but calmer thoughts told me that I was following an idle fancy ; hence my fresh resolve !'"

Two weeks later Leitner received another letter from Herzl ; the tenor of it was such that it almost startled him. It was dated from Chicago, and ran as follows :—

"I find I must return. I am a prey to such distressing visions and forebodings that my life is a torment ; and as to work or thought, they are quite out of the question. My friend, out of all patience with me, has gone on to San Francisco alone. I will write you the date of my departure, which will probably be in the course of a week or ten days. Do not let any one know of this step, and if I find my fears are vain, and that all is well, I shall at once return here, for I would not have Fifine think I am so weak."

The next day Leitner was still more astonished to receive a telegram from Herzl, asking him to meet him at the station at ten o'clock. It had been despatched from the railway station at Cologne. He was half inclined to suspect some trick, but there was no more room for doubt when, at ten o'clock, as the train came to a standstill at the platform, the artist stepped out of a carriage, and shook him warmly by the hand.

Half an hour later, seated together in the hotel "To the Golden Swan," Herzl confided to his friend all his troubles. On the morning of his leaving Kaiserstadt, he had promised Fifine, at her express wish, not to write to her for a year. When he arrived at New York, he wrote to Julia announcing the fact, and a few days later he received a letter from her, reporting everybody well at the date of writing. "After that," he said, "we started for the West—I full of confidence and hope. But not many days had passed before a vague sense of some impending danger to Undine oppressed me, and, reason as I would, the feeling would not be charmed away. One night I distinctly saw her in her little attic studio painting, when a strange man entered and attacked her. I saw her extend her arms towards me, and cry for help; and the effort I made to get to her awoke me. I slept no more that night. The next night almost the self-same dream repeated itself, but then I did not awake, and the dream changed to a confused vision of blood and violent death. Tell me if, under the circumstances, you would not have been horrified, and have taken the same course I have?"

Adolf nodded an affirmative.

"And you say she is in perfect health?"

"Perfect—never better."

"Then I have made a fool of myself, and the best thing I can do is to take myself off again as quickly as possible, which I will do to-morrow morning. And you, my dear Adolf, must never utter a word of this to living soul."

"Good."

"And she is really as lovely as ever?"

"What do you expect? (with a smile). How many months is it since you left? Has she had time to grow old in so short a space?"

"True, my good friend, I am stupid; and you are annoyed with me for my folly, and justly; but bear with me this time, and you shall not have occasion to be so annoyed again."

"Then," said Leitner, in a subsequent letter to Fafner, "I up and told him all; I could withhold it no longer—how Fifine had been attacked in her little room in the attic, and by whom; and how that one had so shortly afterwards come by his end. Believe me, my dear Fafner, when I tell you that my pen cannot describe the effect of this communication upon Theodor Herzl. He became suddenly pale, and stared like one confounded; then, seizing me by the hand, he asked was that true—was the villain really dead? and upon my assurance that he was, he laughed, and then presently wept. Before I left him he had gone through the whole gamut of emotion, and was more like one beside himself than like a sane man. On parting he embraced me for the twentieth time, and bade me come and see him early on the morrow.

"Early in the morning, therefore, I called upon him, and what do you think his first question was?—Whether he ought not to go away again, and complete at least the year of his intended tour. Whereupon I laughed at him, and asked him how he knew the supposedly

dead Flautist would not come to life again—turn up in some other shape, and again threaten his bride. At this he turned pale, and said : ‘I think it is my duty to stay.’

“‘Anyway,’ said I, ‘you had better take another day to think the matter over !’ This he agreed to do, so anxious is this noble soul to do right, especially before the woman he loves.

“Meanwhile, I was treacherous enough to round on him. I first told Claus and Bear, and they took counsel with Bleichroder and Julia. And then the thing was out. By the way, when Annette learned the news, wasn’t there a scene ! Therein I showed how little I know about women. To have deprived her of the keeping of that secret for half an hour ! But there !

“Well, the women among them arranged a little plot. I took Herzl to my humble abode to present him to my wife, and while he was there, the servant first announces the Herr Professor and the Frau Professorin ; then the Herr Doctor, and his wife ; then the Herr Papa and the Frau Mama ; and lastly, Herr Schwarzbach, Julia, and Fifine. Tableau !

“Imagine the scene for yourself, my dear Fafner. But first let me aid you by saying that neither Herzl nor Fifine were in the plot, so that you may the better picture to yourself their confusion. I think he suspected a trick when he saw the couples arrive one after another ; but she was all innocence. And you should have seen how she started, and how her cheek paled, and her lip quivered when her eye first rested upon him ; and then, when he stepped forward and took her hands, what a pretty blush mounted to her cheeks, and with what a look those blue eyes of hers, threatening tears, welcomed him home. Having been blessed with such a look, one might die content, and say, ‘Heaven hath indeed given me love enough !’ ”

Need anything be added to what Leitner has written ? The latter and Theodor Herzl were a few days later walking together along the river bank, when the artist said, half soliloquisingly—

“ May Heaven grant me goodness enough to make her a good husband ! ”

“Amen,” quoth Adolf Leitner. “And pray when is it to be ?”

“In a month,” was the answer.

And it was so.

“And were they happy ?” some one asks.

Thus far they have been happy—very.

“And Claus, and Bear, and the Doctor, and Julia, etc., etc. ?” says some one else.

All are still living, and tolerably happy, except Beauty and Fritz—they are both in the Silent Land !

THE END.

DURING the month of July Mr. Fowler will hold a series of classes—probably extending to eight or nine—for practical instruction in Phrenology. For terms apply to Mr. Fowler, at the office of this Magazine, 6 to 9, Imperial Buildings, Ludgate Circus, London.

Facts and Gossip.

HERE is a story for the Society for Psychical Research. It was told recently by a late manager of a Rhondda colliery, who is said to be a thoroughly trustworthy man, to a Welsh journalist. Sitting one Sunday morning with three comrades in the lodge room at the bottom of a shaft, he was suddenly seized by an irresistible impulse to ascend at once, which impulse he told to the other men, who, however, refused to go. While talking, a drop of water from the wall above put out the lamp of one of the men, obliging him to ascend. When he returned, the impulse, stronger than before, again prompted the manager to urge their ascent, and again while talking a drop of water falling into the lamp again put the light out. In consternation they gave the signal to be lifted up, and no sooner had they reached the open air than a terrible explosion took place, shattering the shaft, and filling it with débris, which could only be removed after some months of hard labour. This remarkable incident stands by no means alone ; forebodings and dreams having warned the same miner at various times of coming danger.

AT a recent meeting of the Rotherham Guardians a man terribly crippled by rheumatism applied for relief. He could hardly manage to hobble into the board-room by means of a crutch, and it seemed quite apparent, therefore, that he must be incapable of earning a living. But among the guardians present, one had the reputation of being a powerful mesmerist, and the applicant was accordingly placed in his hands for experiment. A few scientific "passes" served to place the applicant under the "influence," and no sooner was this done than away went the rheumatism out of his joints, and he moved about the room quite nimbly, without the aid of his crutch. Such, at all events, is the description of the miracle given by the local journal, which adds that the case was not one of shamming. But it forgets to state whether the cure proved permanent.

DR. GUSTAV JAEGER, of Stuttgart, is the founder of a reform in Germany which is known as the sanitary woollen system, and consists in promoting and aiding the exhalation of the skin by clothing it, day and night, in pure animal wool only. Dr. Jaeger points out that vegetable fibre, linen or cotton, is practically impervious to the exhalations of the skin, which it represses, while that animal wool freely permits their passage is the experience of every one who has donned flannels for athletic exercise. The result of all-wool clothing and bedding is astonishing, the tissues becoming drained and hardened, and the flabby adipose matter being converted into firm flesh.

A CORRESPONDENT writes as follows to the *Field* from Noumea respecting the effect of the human voice on animals :—"We have a lady resident here with a very beautiful voice. Several times when she has been singing at my house, a favourite cat has left her snug

quarters in various parts of the room, climbed over every obstacle, and got on the piano as close to the fair singer as possible. At one particular high note she will raise herself and stare fixedly at the lady's countenance. She takes no notice of any other singer ; but will repeat the action whenever the lady goes to the piano. The lady tells me that on several occasions when practising at home a large rat has come and sat by her on the floor, and though she has chased him away, he has returned again and again the same day. My cat will look from the lady into the piano (a horizontal one) and back again, as if uncertain whence the sound proceeds ; but at the high note she gazes intently at the songstress."

Correspondence.

AFFECTION—SPECIAL AND GENERAL.

To the Editor of THE PHRENOLOGICAL MAGAZINE.

DEAR SIR,—I have lately had put into my hands a book of some 90 pages, written in 1829 by an M.D. of Lynn Regis, John Wayte, by name. The book is entitled "Anti-Phrenology; or, Observations to prove the Fallacy of a Modern Doctrine of the Human Mind, called Phrenology."

It is a very harmless work. It is also interesting, if not amusing, in the perusal of it to come across certain prophetic remarks as to the future of the science in its application to the common affairs of life (such as the choice of occupations, of friends, in education, in matrimony, &c.), made, of course, in a satirical vein, but which have come to a fulfilment in sober, rational practice, to the thorough establishment of the truth of phrenology.

There is, however, one objection deserving of attention, especially as it is one which is being raised at the present time, and with as much boldness as it was fifty-five years ago—it is this :

" You say that each separate affection is manifested through its own special organ ; and yet there are some affections to which you allot no organs, but which yet are as clearly existent in the human character as any to which you assign a place in the phrenological system. A man loves one of the opposite sex through the promptings of the organs of sexual love ; but, if it is his *sister* instead of a stranger that he loves, he is left to experience such an attachment without the aid of any phrenological organ. Again he manages, in a similar way, to exercise his fraternal love, seeing that there exists no *Philadelphic* organ. Philoprogenitiveness is a name given to an organ which is supposed to give rise to the love which parents bear towards their children ; but is there not as real a love manifested on the part of children towards their parents ? But where is the provision, phrenologically, for the manifestation of *filial* love ? "

Now, where shall we look for the answer to this argument ? Briefly, in this direction : Firstly, as regards the organs, it must be

understood that as all the *known* ones have been discovered by study and observation, so those that are undiscovered, if any such remain, must be revealed by the same method ; and, if that be the case, we must wait the result. We cannot *invent* an organ, or the supposition of such a one being needed to complete a mental system. Thus much is certain, every faculty must have its organ ; so that, if these different affections alluded to are all separate and distinct powers of the mind, then other organs remain to be discovered. But are they such ? Is, for instance, the love of a child to its parent essentially the same as that of the parent toward the child ? We think not. A mother loves her child for no reasons in the world, and from no motive, whatsoever—she simply *loves* it. But the child loves its parent, first, from selfish motives and from thoughtfulness, and a sense of duty, by-and-by ; whilst the *strength* of attachment will depend very much upon the esteem in which he holds his parent's character. I think, if we study these various affections with a view to ascertain their end and design in the human economy, and the nature of those claims they are intended to serve, we shall soon see why to some are relegated special and independent sources of impulse, and to others not.—Yours, etc.,

West Brook, Margate.

F. C. BARRATT.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

R. W. C. (Dalton).—You will need to put the reins on yourself ; you are too excitable and too emotional, are apt to get into extreme states of mind, and to feel one minute very elated and the next very dejected ; and unless you can moderate your feelings somewhat you will always be subject to these extremes, and the dangers and troubles that they involve. You will have to try to be not only more sedate, but more profound. You are apt to be too superficial. You learn certain things so quickly, and get them off so pat, that they pass current for really more than they mean—in other words, they won't wear. You need to guard yourself more in thought and expression. You have the gift of speaking, and are fitted for some public position that requires the talking talent and a generally amiable disposition. But the first and last words of advice should be : be more thorough.

A. B.—There is in this character a strong blending of the masculine and feminine. There is so much power in the organisation that it will be difficult for the lady to keep within bounds. She is full of life and activity, and while young will hardly be able to keep quiet

long enough to rest, and yet it would be difficult for her quite to exhaust herself, and even when thoroughly exhausted she recuperates very quickly. She ought to have been a man. Is noted for practical common-sense intellect; is not very imaginative, and will not easily be deceived through imagination, but she may be through emotion. She is intensely loving, and when she makes up her mind to have some one, it will be a hard case but she will succeed. Has strong will and resolution, and will have her way at almost any cost. She needs to cultivate a little more restraining power and general circumspection in regard to speech and action. She may not be a genius, but is possessed of considerable talent, and is full of that kind of magnetism that bends people to her will, and makes a way where other people would find none.

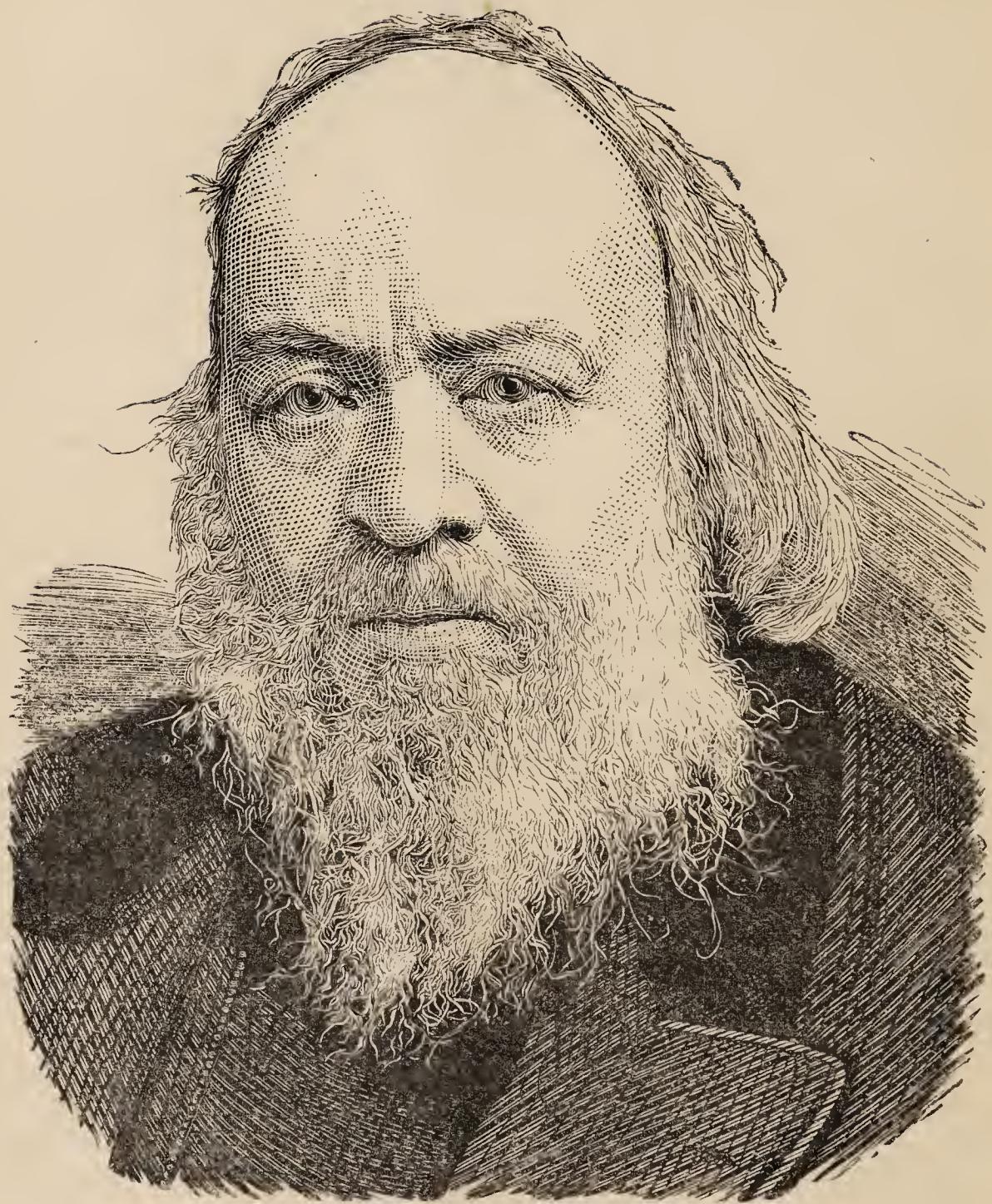
W. C. C. (Kettering).—Has a good sound constitution, and is capable of doing hard, constant work. He should be in something that requires him to be about outdoors, and should not be confined to indoor work, or he will become weak and lacking in energy. He is adapted to general business, and specially of the kind that requires common-sense practical intellect. He is not fitted for any complicated work, but can do anything that requires common-sense ability, and steady working power. He would do well as a salesman in almost any branch, and with a little drill would make a good auctioneer.

G. P. (Chester).—This photo indicates rather a strong character in some respects. The following are the leading features: not much pride, but considerable will; great natural hopefulness and elasticity of mind; large Veneration and much Benevolence, and rather a spiritual cast of mind; great insight into character, much general agreeableness of manner, talking power, and critical acumen; are very ingenious. Naturally energetic and industrious in providing for self and family. Great will power, and much general steadiness of purpose and disposition. Is hard on those who fail to come up to their duties and responsibilities. Is devoted in attachments, but expects the same in return, and can be very jealous if there is an appearance of any laxity.

R. J. L. (Leeds).—This is a difficult character to tell in a few words. The photo. indicates considerable natural ability, but it also indicates some drawbacks arising from temperament. There is not that spontaneousness and vivacity necessary to make the most of the natural powers. He will not come to the full maturity of his gifts till middle age: up to that time he will be growing all the time, and if he has health and fair chances for culture and improvement, he will make a substantial man. His gifts are intellectual perceptions, judgment, and observations, and speaking talent. He has a great deal of will, is more than commonly energetic, in fact he hardly knows when to give up. Is very suspicious, however, and that may stand in his way of enterprise to some extent. He has ability to become a good phrenologist, but he will require study and time to cultivate and polish himself.

VOL. V.

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MR. EDWIN CHADWICK

THE Phrenological Magazine.

JULY, 1884.

MR. EDWIN CHADWICK,
THE FATHER OF SANITARY REFORM.



R. CHADWICK has all the indications of good stock, long life, and a healthy parentage. He is well supplied with mental and physical force, and capable of a high degree and a great variety of enjoyment. Nature was prolific in her gifts to him, for they were measured to him with an unsparing hand.

He has a great amount of vital power and animal life, which he may have found difficult at times to control or work off in a healthy direction. He requires a great amount of physical exercise, yet his muscular powers do not favour great exertion. He requires more and better air than most men. He enjoys mere physical existence very highly, and is strongly attached to this material world and its various conditions and sources of enjoyment.

He is sure to make the most of life while he has it. He is largely developed all round, and knows how to make the most of everything; and could easily convert a common enjoyment into a luxury.

The one grand marked feature of his entire organization is largeness, comprehensiveness, and his whole-souled tendencies of mind. He takes extended views of everything, and can generalize and do things on a large scale better than attend to details; his mind goes from the larger to the smaller rather than from the smaller to the larger.

His head is amply developed in all departments, especially in height and fulness of forehead. His mental powers predominate over his physical, and he must be subject to high states of mental action, if not quite excitable.

He has great power of expression ; his very full eye indicates good, if not great, ability to talk and repeat conversation, and use words with appropriateness and force. He has favourable qualities for a scholar and a speaker. He is much annoyed at misstatements, wilful perversions, and inaccurate representations ; is a great lover of all that is true and useful ; is also a lover of order and method, and is particular how everything is done, and is correct in his estimates. Mirth and even wit are not wanting when replying to the jokes of others. His power of analysis and ability to compare and illustrate are great. He is easily understood, for although he is, or may be, wordy at times, yet he has clear conceptions as to what he wants to say, and generally comes to the point ; is capable of saying much in a little, and frequently some of the most important truths present themselves on the inspiration of the moment, without any research of his own, for he must be subject to inspirations ; and some of his best efforts have been without preparation. He has great intuitions of mind, and has an instinctive sense of truth as contrasted with error. He has great forecast of mind, and acts with reference to the remote future.

His off-hand intuitive judgment, or sense of truth and error, generally is correct and cannot be improved upon with more time and reflection. He has versatility of talent, and is seldom at a loss for a way to accomplish his ends, get out of a difficulty, or construct a new argument. In conversation or speech he is very suggestive.

He has strong, generous sympathies, and warm, impulsive feelings for all causes where humanity is benefited. His Benevolence is so large as to modify his whole character and lead him to take liberal views of most subjects ; he cannot well be a contracted sectarian.

The likeness before me shows a high head, indicating moral power and tone of mind, enabling him to exert a marked influence over those with whom he comes in contact.

His physiognomical indications are favourable to strong social feelings, attachments to friends and to society, and capacity to enjoy married life and parental responsibilities.

He works easily, and can do a great amount of work if put upon him. When not pushed in business, he knows how to take life easily and enjoy himself. He would make a first-class judge, or would have succeeded in almost any sphere where thought, originality, power to organize, direct, or give off ideas, were required. As a statesman he would be before his time. By his contemporaries he would be called impracticable ; he would see too far ahead for them.

L. N. F.

Mr. Edwin Chadwick, of a younger branch of an old Lancashire family, was born at Longsight, near Manchester, in 1800. He was educated for the Bar. In 1828 an article of his on the insurance of sickness by friendly societies was published in the *Westminster Review*, which contained the germ of the doctrines on sanitary science which he afterwards elaborated in the public service. In 1829 he wrote an article in the *London Review* on a preventive police force, which contained the first exposition of the principles immediately afterwards adopted in the organization of the general Metropolitan Police Force, and the supersession of the parochial forces. In the same year he wrote an article on the administration of medical charities in France, which evolved principles of medical relief still in agitation for its better administration by medical charities and the poor law in the Metropolis. In 1831 he wrote an article for the *Westminster Review*, setting forth the economical and educational grounds for the removal of stamp duties on newspapers, and all taxes on knowledge. By the late Lord Lytton and others, who moved in the matter in Parliament, it was treated as being "Mr. Chadwick's question." He had the support in it of Dr. Arnold, of Rugby, and of Archbishop Whately, and at their instance the article was circulated separately.

In 1832 he was appointed Assistant-Commissioner to the Commission to inquire into the Administration of Relief in England and Wales. The principles expounded in his report were adopted by the Commissioners, and he was made a Commissioner to prepare their report and an exposition of the practical measures for the Cabinet. After the passing of the Poor Law Amendment Act in 1834 he was appointed Secretary—as chief executive officer—of the Commission. By that measure the entire local administration of 16,500 parishes (by officers chiefly unpaid) was transferred to 650 unions with paid officers acting under a central instruction from collective experience, support, and control. The union is now the local administrative unit of the country, and is generally, except in some municipalities, the local sanitary authority, exercising various local administrative functions. By the first operation of the Poor Law Amendment Act allowances in aid of wages to able-bodied agricultural labourers were abolished, and they received pay not as charitable doles, but as wages; they were also relieved from a condition of almost serfdom, confining them to their parishes, in the southern counties especially. In the improved condition of free labour their wages have continued to advance, and are now more by one-third what they were before, whilst the farmers' profits have improved—and

the value of land, until the recent depression from climatical causes, has been advanced by about one-third. The local charges have been reduced in the aggregate upwards of sixty millions since the first operation of the law, and the administration has, with all shortcomings, been considerably improved. Lord Russell declared in Parliament that he considered that that measure had "saved society."

In 1839, largely with the view to the reduction of vagrancy and mendicity, a Commission of Inquiry was instituted, at the instance of Mr. Chadwick, into the condition of the local constabulary, then generally parochial. His colleagues were Sir C. Rowan, the Chief Commissioner of the Metropolitan Police Force, and Sir C. Lefevre, afterwards Speaker of the House of Commons, now Lord Eversley—who, however, took no part in the inquiry. The first report of the Commission set forth the principles of a national police force, of which the county, including the boroughs, would be the unit; but the Government did not feel themselves strong enough to adopt more than a very partial measure. A movement is now on foot for the adoption of the complete measure, on the ground of economy as well as of superior efficiency.

In 1841 Mr. Chadwick obtained leave to conduct, under the new Poor Law Board, an inquiry into the sanitary condition of the labouring population of great Britain. His report of 1842 was recently designated by Dr. Acland, the president of the health section of the Congress of the British Medical Association, as the foundation of sanitary science, beyond which they need not go for light in this country. About this time Mr. Chadwick expressed disagreement with the administration of Commissioners of the Poor Law Board, especially with an order for the continuance in a modified form of the allowance system in aid of wages, and he appealed to the Government against that order, and by the Government his appeal was affirmed, and the Commissioners' order disallowed. Some independent disagreements by Assistant-Commissioners led to a Committee of Inquiry of the House of Commons, and that Committee concluded by a declaration that the action of the Commissioners had been injudicious, and that it was not in accordance with the law which it was their duty to administer. This led to the dissolution of the Commission; but instead of a change of the *personnel* of the Commission, a change was made in the constitution of the chief executive authority, confiding it to a changing party political chief, in the notion of increased responsibility to the House of Commons; when Mr. Chadwick retired and was appointed Metropolitan Sanitary Commissioner, and afterwards Chief

Executive Officer of the first General Board of Health. But this erroneous change as to the Poor Law administration and its dependency led to a return of abuses and to a large increase of the rates, and in 1878 the representatives of the Boards of Guardians, and also of the Chambers of Agriculture, petitioned both Houses of Parliament for a return to the original principles of administration, as laid down in 1833.

Previously, in 1833, Mr. Chadwick was appointed one of a Central Board of Commissioners for the examination of the labour of young persons in factories, and had the preparation of the Bill embodying remedial measures. Of those measures, one which he elaborated was on the half-time school system, which, while the restriction of the long hours of labour of children prevented their bodily injury from overwork, protected them from the mental injury, and remedied the previous exclusion from appropriate education. The working of the measure has lately been examined and reported upon favourably, and recommended for extended application by a commission appointed to examine as to the working of the Factories Regulation Acts. The system implies, in its perfect form, graded schools, simultaneous class teaching, and mixed physical and mental training. It has been applied to the large district schools, the Naval School at Greenwich, the Military Orphan Schools at Chelsea, and the industrial and reformatory schools, comprising in all about 30,000 children—with so much success in the outcome as to be recommended for general application as a national system. Mr. Chadwick received a medal of honour in France for his labours on this subject, and the half-time system has been recently adopted for the Municipal schools in Paris. It is beginning to make progress in some of the States in America.

In 1865 he wrote, for the International Commission of the Exhibition at Paris, a report on the model dwellings exhibited there from the different nationalities; that report, published with the others, is held to be a text book of principles for the sanitary construction of the dwellings of the wage classes. In recognition of this service, he received a medal of honour from the sanitary section of the International Commission.

In 1842 the Government requested Mr. Chadwick to examine the practice of intramural interment, and work out provisions for its amendment. This task was one of extreme difficulty, and he was credited with having successfully accomplished it.

In his article on medical charities in the *London Review* in 1828 Mr. Chadwick first proposed for England competitive examination as a test of competency, and for the prevention

of political jobbery and corruption in appointments for the public service. He gained over Mr. John Stuart Mill to its advocacy for appointments to the Indian civil service, in which, by Mr. Mill's support, it was obtained for that service, and served as a precedent. Mr. Chadwick advocated the principle in a paper written for the Government on the reorganization of the civil service. He pursued the subject in a paper read at the Social Science Congress at Leeds, where he had the emphatic support of Lord Ripon, who carried a vote on the principle against Government; and in a paper read at the Dublin Congress, held at Dublin, where he had the emphatic support of Archbishop Whately, and ultimately, with other supporters, a civil service commission was appointed, and the general adoption of the system obtained. Whatever its adversaries may say, and with much shortcoming, as Mr. Chadwick considers, in the too scholastic character of the examinations, the system is a great success.

It is claimed as due to the great labour of examination and preparation bestowed by Mr. Chadwick, that no measures of his preparation have been introduced that have not succeeded when fairly adopted; that there have been no deviations that have not proved to be deviations in error; that no large parts have been omitted which subsequent experience has not made manifest the expediency of having them restored. This is seen in the petitions of the representatives of the Guardians and of the Chambers of Agriculture, for the restoration of the executive arrangements and principles laid down in the measure expounded in 1833.

The first Registration Bill for the registration of deaths, births, and marriages, was one solely to relieve dissenters from being compelled to have their registration in the parish church, and had no sanitary attributions. Mr. Chadwick got provisions inserted for the registration of the causes of death, and the Clerks of Unions were made Superintendent Registrars. He got Dr. Farr charged with the service of reporting the progress of those causes, and the Doctor's labours have made the registration the institution it now is in Europe and America.

We have not space to give a full record of all Mr. Chadwick's labours. A biographical account of his services in legislative and administrative measures up to 1850 was written by Professor Masson, and will be found in the *North British Review* of that year. A particular account of the economical principles involved in Mr. Chadwick's later measures will be found in "Macleod's Dictionary of Political Economy." It will be found that the main drift of his labours is preventive,

rather than curative or repressive—*e.g.*, preventive by sanitation of human pain and misery, and premature working disability, and premature mortality; preventive of marsh diseases, by draining the marshes, rather than curative by hospitals; preventive of mendicancy, and vice, and crime, by early physical, mental, and industrial training, on the half-school, time principle, rather than repressive by gaols, imprisonments, and punishments; preventive of destitution and pauperism, by early industrial training; creative of productive aptitudes and interest in their exercise by good, well-earned wages; preventive by the removal of incitements to intemperance, and the facilitation of habits of thrift by convenient banks of deposit and investment, rather than curative by doles, or the most unlimited dispensation of charities, or than repressive by preventive measures, or the coercive measures of slave labour.

Mr. Chadwick has of late acted as President of Sanitary Congresses, abroad as well as at home, and has delivered addresses as President of the Health Section of the Association for the Promotion of Social Science, and has received distinguished support. He is ranked after Quetelet (the oldest statist in Europe), and is the oldest member of the Political Economy Club of London; and he was elected to succeed Whately as a corresponding member of the Academy of Moral and Political Sciences of the Institute of France.

THE EXAMINATION SYSTEM.

EXAMINATIONS are so much the order of the day, and public attention is being just now so much directed to them in regard to both the higher and elementary forms of education, that a hint or two as to their use and abuse may not be lost, perhaps, on some of the many students, teachers, and parents, who are anxious to make up their minds on the subject. The guiding principle to be kept in sight is this: examinations, to be of any real service in education, must be regarded as a *means*, not as in themselves an end. The question of their value depends in the main on this. They are helpful if they are used as a means of ascertaining the progress made by pupils, and of testing the extent and accuracy of their knowledge. When skilfully conducted they show the student how much he knows of the subject in hand, and how little. They show him where he is weak, and where he is strong; in what direction he must work harder, and to what extent he may

feel sure that he has conquered the ground. They are like a light brought into a room to one who has been sitting in the dusk. You can see now exactly what is in the room; whether it is well or ill-furnished, in order or disorder, and how the things are placed. This testing of acquirement is an immense advantage to the earnest student. We must bear in mind, however, that for an examination to be of service it must be conducted by one who thoroughly understands the art and science of examining. A bad examiner, that is to say, one who can only measure what has been *crammed* into a pupil, will give but little help. Some of the examination papers that are issued from our universities themselves test scarcely anything but the memory of the student, and give next to no exercise to the understanding. In such cases, if the students have "got up" certain books, and have a memory that will retain their contents till the examination is over, they will contrive to pass, though they may have nothing but a verbal knowledge of the subject in hand, a mere parrot-like acquaintance with what others have said about it; while as to any real comprehension of it, they are utterly ignorant. Such examinations do harm rather than good, for they exact from the student a great amount of labour in reading and "getting up" the books on which they are based, and yet it is a labour which after all leaves behind it a very small residuum of real acquisition. Of course verbal knowledge is by no means to be neglected in preparing an examination paper; but one half at least of the work should be directed to testing the student's judgment, understanding, and powers of comparison.

Again, examinations are of use by acting as a stimulus to exertion. Students are apt sometimes to work in too aimless and desultory a fashion. The love of knowledge for its own sake alone hardly suffices to rouse them to such exertion as must be put forth if real work is to be done. The stimulus afforded by a prospective examination often adds just the amount of motive force which is needed to carry the worker through the toil of preparation. Of course those who are very much in earnest, or intensely interested in the study in hand, do not require this stimulus; but how few, comparatively, are conscious of being thus fired by pure zeal for work!

Where the main mischief of examinations occurs is in the overdoing of this stimulus to exertion. To a certain extent it is sometimes needful, and always useful; but beyond that point it becomes hurtful—Sometimes it is the excitement of competition that does the mischief; at others it is the dread of failure. In either case the stimulus acts like a whip or spur

on a panting race-horse. An unnatural excitement carries a candidate on through an unnatural amount of exertion, and of necessity, the strain being over, re-action sets in, and the whole system feels the injurious results. An eminent London physician told the writer not long ago that he had at that time no less than four cases of serious injury to brain or body arising from over-work in preparing for examinations. Nothing can exceed the folly of either parents or teachers who urge the young to such excessive toil. They do but defeat their own end, for success in life can never be attained where the brain and physical powers have been over-taxed and injured in early life. The vigorous and clever may and often do pass through the ordeal of even a "stiff examination" with impunity and *prestige*; but how different are the consequences with the less gifted and weaker children, who require careful, loving, and patient training, more even than the brighter ones, picked for exhibition prizes, and cultivated accordingly! Many a poor child, in our elementary schools especially, has been weakened for life by being pushed on beyond its strength in order to earn the Government-grant, given not for the labour bestowed, but for the visible results of that labour, on the part of teacher or of child.

Education, in the true sense of the word, means a *drawing-out*, not a cramming in; and examinations must be baneful or helpful as they tend to repress or to foster the equable and harmonious development of all the natural faculties. As a discipline of the powers they are good, as a test of progress they are good; but if the student's aim is merely to succeed in "passing," they become to him an evil; and if the preparation for them involves an unnatural strain of the delicate brain, they are beyond question injurious. Much, very much, of the benefit of the examination system depends on the skill and sympathetic insight of the examiner. In girls' schools, whether of the higher or elementary class, it is much to be regretted that women of education and experience are not at present eligible for the office of Inspector. Efforts, however, are being made in influential quarters to procure an alteration in this respect, and before long we may hope to see this among the more important of the positions open to those who are qualified as well by their sex as by their attainments for this high and onerous function.

M. G.

WHAT wits we should be if we only uttered the bright things we think of when the occasion has passed.

WHAT IS A BUBBLE?

Is it a fluid or a solid? Is it subject to gravitation or repulsion? To the pull or to the push?

The reply to these questions may appear to be simple and easy, more so perhaps than on investigation they will be found to be. What then is a bubble? Let us take one tolerably well known, that produced by idle, or perhaps better call them ingenious, boys, by means of some soap-suds and a tobacco pipe. The boy takes a piece of soap, a *solid* body, subject to the law of gravitation; this he mixes with water, a *liquid* body, also subject to gravitation, but in a minor degree, since, if poured from a vessel, much of it will not fall to the ground directly, or bodily, like the solid soap, but in part obliquely, and some smaller part will be dispersed or blown into the air. The boy will then mix a part of the soap with the water, will stir it about and thus produce soap-suds, already in a minor degree in the bubble state, but wanting another operation to float them in the air. This last operation is effected usually by the boy with a short tobacco pipe, or a straw, with which he takes up a portion of the soap-suds, and blowing into the stem of the pipe, thereby causes very perfect bubbles to form, and by the impulse and warmth of the breath they rise and float in the air, going off at times to a considerable distance before the bubble bursts.

But before this takes place, perhaps it will be as well to stay and see what it is that causes the bubble to float in the air, being made up as it is of soap and water, both gravitating bodies. As the bubble floats upwards for some time, and, like a balloon, pushes itself through the superincumbent air, it seems clear that there must be some expansive force which causes it to resist gravitation, and pursue an upward course. It may be answered that the impulse given by the breath of the boy, is sufficient to carry on the bubble for some distance. And so it is, as long the warm air contained in it from the boy's breath is retained in the bubble, but as soon as it chills, the pressure of the atmosphere around it causes it to burst, and then it falls to the ground. In the case of the soap-bubbles, therefore, it is pretty clear that the elastic influence which forces them upwards is the warm air from the boy's breath. But there are other bubbles, made of stronger materials, and containing a more permanently elastic fluid, which float for much longer periods: the balloon, in fact, used by aeronauts, the material of which is generally of silk, from its lightness, strength, and flexibility. The original fire-balloon

was also kept up by heated air; but this has long since been superseded by the modern balloon, filled with gas either from the gas-works, or with hydrogen gas, which is fourteen times lighter than common air. By lighter, we mean, also, more elastic, and this elasticity it is which forces it upwards with great rapidity in spite of the heavier air pressing down on the balloon, and in spite of the car, and the men, and the ballast which it carries up with it as it rises. That the hydrogen gas is so elastic and light is proved by the fact that if you wish to descend, you let out some of the gas, which clearly shows that it is only by its greater lightness and elasticity that the balloon is forced up. Now hydrogen gas, like all fluids, is but a mass of bubbles (or globes), but these must be filled with something lighter than the shell or globe which holds them, and the question is—What is the something that fills or forms the bubbles of the gas? It may be answered that heat is the agent, since the gas, as we know it, is formed by the combustion of coal; yet, if looked into, this theory can be with difficulty supported; at least, there appear to be facts tending in the opposite direction. Granted, that in the case of the balloon, the carburetted hydrogen gas is formed by the combustion of coal. This hardly proves that heat remains in globules or vesicles, since the balloon keeps rising in the air, and getting into a cooler, and even into an intensely cold atmosphere, the higher it rises.

Now heat, being a most subtle and elastic fluid, has, from the very fact, a tendency to radiate and disperse itself in an extraordinarily rapid manner as soon as it gets into a cooler medium; and that balloons not only get into cool, but into intensely cold atmospheres, is too well known to need much argument. In one case a few years ago some aeronauts went up to 36,000 or 37,000 feet of altitude, and saw small particles of ice dancing around them in every direction, yet the balloon was equally light and buoyant, even in that elevated region. It seems therefore impossible that so subtle a fluid as heat, should not escape out of the balloon with great rapidity, the covering of silk being far too slender to keep the heat from evaporating or dispersing. The heat therefore, if there be any, in the hydrogen gas must evaporate.

But the gas remains equally buoyant, and supports the balloon, ballast, and voyagers. What, therefore, causes this buoyancy? What is the subtle fluid, or how does it act, which keeps the vesicles in their globular shape, and gives the lightness and elasticity to the hydrogen gas, which enables it to carry up with ease the balloon, the men, ballast, and car, weighing perhaps half a ton or more? Of course it is easy to

reply that hydrogen gas is fourteen times lighter than common air. This is a fact which no one can gainsay; yet it only states the fact, but does not show the origin or cause of that fact. We know, for instance, that the more solid a body the heavier as a rule it will be. We know also that the force of gravitation can be calculated in proportion to the size, density, and distance of the object; in fact we can calculate weight, in other words gravitation, but we have as yet no rule whatever for calculating the expansive, elastic, and propelling forces; and this for a very sufficient reason: we do not know what is the cause of these forces.

All bubbles, globular bodies, that float, must contain some subtle substance or other which gives them their lightness; and this very lightness may be translated—force or pressure, upwards and outwards. These upwards or expansive forces vary, however, greatly. Water turned into steam gives some 800 times its original volume. Gunpowder ignited gives 2,000 times its original volume. Gun cotton ignited gives 6,000 its original volume. Light is so expansive that we can perfectly well see the fixed stars, and even obtain photographs of them by their own light; but we can feel no heat from them: therefore light is a much more subtle and expansive fluid than heat—immeasurably so.

Speaking by analogy, may not light also float, or be transmitted to us in the shape of bubbles? Look, on a sunny day, at the dancing rays from the sun; they appear as so many floating minute bubbles, in incessant movement.

While observing the comet of 1881, one morning in May, before sunrise, we were struck with the appearance of the tail, which seemed to be composed of innumerable bubbles, throwing out light, whether from the comet itself, as some astronomers suppose, or reflected from the sun: in any case one could see almost, or quite, through the tail; even the nucleus appeared to be composed of bubbles, and, therefore, not likely to be much affected by the attraction of gravitation, in proof of which comets often go close to the sun, and then turn away almost at a right angle; in other words, their elastic, outward force is greatly superior to their inward or gravitating force.

Many comets are supposed to weigh only two or three pounds, spread out into hundreds of thousands of miles; they can, therefore, have very little gravitating tendency—no weight, no gravitation. But what keeps them not only afloat, but travelling through space with a velocity, in some cases, as Donati's comet, of nearly a million of miles an hour? If they are kept afloat by heat they must require fuel, for heat consumes rapidly; yet no appreciable heat has ever

been felt from the comet, though its light is very clear and distinct.

Thus we are again brought back to our original question : What is the elastic force which keeps the bubble afloat ?

Now we have shown that in the case of the soap-bubble it was heat from the boy's mouth which filled it and enabled it to rise ; in the case of the balloon it was also by heat that the hydrogen gas, by which it rose, was formed ; but it would seem that in this latter case the heat was lost or dispelled in the act of formation ; and that the gas remained fixed in its expanded state, without the heat which originally produced it. The quality of elasticity in the bubble is, most probably, derived from its resistance to pressure when the state of gas is once established ; so that, though the heat may have originally formed it, it no longer remains as a constituent of the body. If it were not so the conditions of the gas would vary under different degrees of temperature ; for heat, like water, always tends to find its level ; whereas, the gas remains the same, even in the cold upper regions of the atmosphere. Cold, probably at a greater height than we can reach, may so press upon the particles as to gradually bring them together, and so draw them within the sphere of one another's attractive power ; and thus gravitation may begin to exercise its influence ; for we know that there is a capillary attraction, and an attraction of cohesion, acting on smaller particles of matter, before the attraction of gravitation, which acts upon the masses, can exercise its power, the larger body always drawing to itself the smaller ones around it, and so gradually increasing its bulk ; for though attraction is mutual, its force always increases with its mass. In the case of vapour, we know that cold acts upon it in the upper air in such a way that the particles are brought together so as to form drops of rain, which, in a still greater degree of cold, becomes hail.

Thus, taking these things together, heat and cold would seem to originate both the elastic and the gravitating powers ; the one tending to drive outwards, and the other to draw inwards ; so that by their joint action constant movement is brought about, and the general balance is maintained.

A. H. IVENS.

HERE is an excellent rule : Say nothing respecting yourself, either good, bad, or indifferent—nothing good, for that is vanity ; nothing bad, for that is affectation ; nothing indifferent, for that is silly.

MAN'S ANTAGONISMS,
AND HOW TO HARMONIZE THEM.
A LECTURE BY PROF. L. N. FOWLER.

SOME men have strong antagonistic natures. Bunyan may be adduced as an example. A child has often times a much more spiritual nature than a man. The skulls were exhibited of an intelligent, thoughtful child, and of a man, who might have been drawn to illustrate St. Paul's theory of those who make gods of their bellies. We have a physical body and a spiritual body. The spiritual eyes are not open so much, while the physical eyes are so busy seeing the things of this world. As we wean ourselves from this world, and begin to open our spiritual eyes, and as we grow comparatively dead to physical enjoyment and association, we begin to direct our attention more into spiritual channels. So we have physical ears and spiritual ears. Some persons hear spiritually what others cannot hear physically. Again, we hunger and thirst after bread and water, physically; but in like manner our spiritual natures are adapted to hunger and thirst after truth and righteousness. Some of us frequently rebuke ourselves for not being and doing more, and better. Our natures are indeed in a kind of struggle, from the time that life commences till life leaves the body, and it cannot be otherwise; and the more life there is the more struggle there is—the more body there is the more struggle there is; hence it is that a man like Bunyan, with powerful body, with all his forces vigorously developed, and in a healthy condition, knows more of that struggle than a man who is weakly organized. Some persons have a great deal more of life than others. Some can endure a great deal more than others. Five hundred men might have attempted to go through what Stanley has gone through, and have died on the way; but he lived through it, because he had more life than the majority of mankind. When he got to the Congo a great many of his men gave up and died.

This antagonism extends from the individual to the family. There are family antagonisms. One member of the family is antagonistic to another member of the family. It is not every man that can be perfectly harmonious; there is a black sheep in almost every family. So there is an odd one, even among chickens; there is one that they all peck at. Again, it goes from the family into society, and societies are antagonistic; and, I am sorry to say, that some churches are antagonistic to

other churches. So it goes from society to government, and one government is antagonistic to another. There are few governments that shake hands heartily with others. The antagonism extends again from nation to nation, so that there is antagonism all over the world; and the antagonisms are both mental and bodily.

There are antagonisms between the body and the mind. My impression is that it was designed that there should be these antagonisms. For if there were not, men would do nothing; and a man who does nothing is nothing. In proportion as a man has antagonisms, and overcomes them, he grows in strength. The man who stays at home, and simply saunters round about his hearth, waiting to take the money his father is going to leave, or smoking his pipe, what is he to Stanley, who has immortalised himself by what he has done? In proportion as we act the part of men, and take our place as men, and fight with our destiny, and overcome the antagonisms of our nature, and bring the body into subjection to the mind, the mental and moral power, and the spiritual nature of man get the ascendancy over the animal nature; and in that proportion man is rising towards his Creator. Another man remains stationary, or, perhaps, is going down. The body wants to go one way and the mind wants to go another way. The body wants to enlarge in one direction, the mind wants to enlarge in another direction; the body wants to go to bed, the mind doesn't want to go to bed—it wants to study; the body wants rest, the mind cannot afford to rest, but wants to do something more. The physical and the mental forces are not equal. Some parts of a man's body are stronger than other parts of his body, and this usually produces an antagonism. So some parts of a man's mind are stronger than other parts of his mind, and that produces another kind of antagonism. A man may have a stronger desire than he has judgment to regulate; while yet there is judgment enough to tell him what is right and wrong; in this case there is an antagonism. The stronger forces want to monopolize—that is the way all through the world. The man who has the most power wants still more. The man who has the least power wants more than he has got. So there is an antagonism between the strong and the weak. Man's mental nature is antagonised by his social and his intellectual nature—that is to say, the intellectual and the social nature of man are antagonistic. The man who is the most sociable is very frequently the least intellectual; the man who is the most intellectual is liable to be the least sociable. If the man is both sociable and intellectual he wants to gratify both, but

he cannot at once, for he often has to drop his studies to go into society, or he must give up society to be able to prosecute his studies.

The physical or surface nature has the seat of its power at the base of the brain, in the lower strata ; that is why man first lives as a physical and animal being.

These animal passions and propensities are antagonistic to his moral and his spiritual nature. The intellectual faculties want to take hold of all the various conditions of things in nature, and there are so many things to be seen and known, and tried, so many combinations to be made, so many forces to become acquainted with, that if a man were all alive to be intellectual and physical, he would not have any time to live at all. He would hardly be able even to get married, because it would take all his time, and more too, to learn what is in the earth below and in the heavens above. I think it is well that a man is not all intellect : I should pity the man who was. Why, some people are so eager to acquire knowledge that they will do things as absurd as a great arithmetician is said to have done—undressed to go to bed, but being elated with his success in solving some problem, he ran straight out into the street, shouting “Eureka !” There is joy in intellectual gratification ; but then there are other joys as well as those. A man may be a fool in philosophy, in originating, in inventing, but yet be a great man in knowledge. Now some don’t observe the difference between a knowing man and a philosophical man—a man of observation and memory, or of thought and originality, of mind. Phrenology defines what kind of a man a man is ; it discriminates the kind of talents he has, and gives him credit for what he has. A man of great reasoning power wants to investigate everything. The reasoning brain when much exercised tends to wean a man from the world, even from his wife and child, from his neighbours and all surroundings ; almost weans him from his body, for he forgets to eat, and when he has eaten and comes back again to his work he does not know whether he has eaten or not. His mind was not there when he was eating—it was a mechanical process.

The social brain is the reverse of that. Take the mother with her love of her child ; there is nothing in the world to her but that child ; nothing so important, nothing so interesting ; her life is swallowed up in the child. I have known a mother with seven children, when she lost one of them, take it so to heart as to die. Talk to such a one about philosophy —she is not prepared to listen ; remind her that she has other children to live for, she replies that the one which is

lost had all her heart—she will not hear your suggestion of comfort. Those who are in love don't know much about intellect, and so we find a young man does not philosophise much after he begins to love a young lady. If he philosophises at all, it is beforehand. I know some men think about it, but if they think much they never get into love, and when they love a great deal they do not think much about it. Excessive lovers do not reason, and it is no use trying to reason with them. Tell a young woman who loves that the man she loves is a drunkard. She says, "I don't care, I love him, and I will have him." Later on you see him come home in a wheelbarrow. Never mind, she loves him still. The more a man reasons the less he loves. A man under control of his intellect goes to nature and studies nature and studies books, and studies the stars and things far enough away from the social fireside and the family circle and the wife and children. I have heard of a young man in college falling in love—his books did not do him much good after that; the more he loves, the less he reads. Now it is a very great thing in a man to be able to love and at the same time to enjoy life in his family circle, and to enjoy his books, to possess the power to lay down his books and go at due seasons into his family circle, the power to leave the family circle and go to his studies and enjoy them. It is not every one who can do this, and with many men it would require more than ordinary discipline to attain it: we have to discipline ourselves to do it.

If we look specifically at some antagonisms of the mind, we find, for instance, that Combativeness is an iconoclast, its mission is to break images, to oppose things, to resist, to put its fist into another man's face, to contradict him, to get up an argument. The organ of Veneration, which is directly opposed to that of Combativeness, has for its mission to give us humility, to impart a subdued state of mind, to give us respect, and to lead us to devotion and to the acknowledgement of a superior Being. A small boy once kicked his teacher: that was Combativeness. Veneration would not have allowed him to do that—the two faculties being antagonistic.

Destructiveness makes us willing to take life; if necessary to go to war; to hate; it gives hardness to the mind. It is Destructiveness that can welcome the idea of going to war and slaying by the hundreds or the thousands. If we were all soft, we should be like melted butter, and of no use. Nothing could be done. Some people are entirely too soft, too gentle, and too easy. Some men are too hard. It requires a hard man to stand at the head of three hundred men against three thousand. If told he will surely get no quarter, he tells us that

he asks no quarter. Another man is entirely different in disposition, his head is not so full in the back, but much more full in the higher region. He has a nervous organization, with little cruelty, great gentleness, great humanity : he saves life, makes peace, and has charity. How are we going to harmonize Destructiveness and Benevolence ? How shall we carry a sword in one hand and a loaf of bread in the other hand ? How can we do deeds of courage and deeds of kindness at the same time ? This is a lesson we have to learn. How can we oppose and how can we be modest too ? That is the lesson we have to learn.

Avarice says, "I want," and that organ is never satisfied. A boy with that organ large ate till he was full—filled his pockets, filled his hands, and then cried because he could take no more. Some people would steal creation, and put it into their pockets if they could ? Alexander wanted to rule the whole world—a part of it did not satisfy him ; he wanted entire control over the human race. There is no end to a man's desire. But there is an antagonistic feeling to this Acquisitiveness, and that is Conscientiousness, which says' "Divide, and be just ; do not take everything you can lay your hands on ; only take that which belongs to you." So the organ of Conscientiousness puts a check on Acquisitiveness. Some men have comparatively no Conscientiousness to check them ; so they get all into their hands that they can, whether it belongs to them or not ; they borrow, beg, cheat, steal ; they regard trade as a means of monopolising and of bringing everyone into subjection to themselves. There are a great many men of this class in America, and I believe there are one or two in this country. The organ of Secretiveness gives us an inclination to be secretive and to keep things to ourselves, and hide our sensations, our feelings, our intentions, and our emotions. It leads a person to put on a veil, and another veil over that ; so that it is very difficult with a secretive person to get at his real character or his true opinions, for he does not want his real meaning to be known. He is therefore like some diplomats whose secrecy is such that you cannot discover what they mean. Those who have this organ prominent are suspicious of each other, are not free in the exchange of thought and feeling, but mystify all that they say. We cannot be over careful as to the way in which we manage our children ; parents do wrong in driving their children to too great an exercise of this faculty. This organ makes us live within ourselves, and devote ourselves to ourselves, and so doing we consume ourselves. If you want to have a small, narrow, contracted mind, live within yourself and eat your

own thoughts, and digest them until you have not got any thoughts. Do not go out into the world, or come in contact with society. Do not tell other people what you know, or tell them your thoughts, because the communication of thought opens the human mind, and you cannot open your own mind without somewhat opening that of others.

Now there is an antagonistic faculty opposed to this Secretiveness, and that is Faith,—the organ of Spirituality. Secretiveness locks all the doors and puts the keys into the pocket and carries the key around with it until it wants to go again and unlock the door. The organ of Faith says there is no need to lock the door, and consequently the door is not locked. In London doors are commonly locked, so they are in New York, but where I was brought up they were left unlocked, and it was no uncommon thing for a stranger to come in and help himself to what he wanted. But it was all right. If they were cold, they came in and warmed themselves. It was in the country where the Indians were ; and I have known, when my father was out at work, an Indian come along with a quarter of a deer, which he left, and taking in exchange a loaf of bread—an exchange my father felicitated himself upon, while at the same time the Indian was satisfied. The doors were always left open, because there was no suspicion. Suspicion begets suspicion and in time begets deception and rascality and more secretiveness. We ought to unlock rather than lock. To treat everybody as a rascal till proved to be honest is just the way to make many rascals. Treat everybody as honest until you prove them to be dishonest, and you will find a great many more honest than otherwise would be. Why, you may even treat a rascal in an honest way to get honesty from him ; but if you suspect him (or even a comparatively honest man) to be a rascal, probably he will cheat you. Enlargement of the mind, expansion of the mind, freedom of the mind are good and desirable things. Secretiveness buttons up, locks up, keeps us within ourselves. You cannot ever clearly hear a man talk who has this faculty very large. A person with small Secretiveness talks loudly and plainly. Cautiousness begets doubt and care, and anxiety.

The opposite to this is Hope, which gives expansion. Cautiousness says, "Take care, there's danger." Hope says, "Look beyond the danger." Cautiousness says, "There is a fog." Hope says, "Yes, but the sun shines just as bright on the other side of the fog as ever." So the organ of Hope looks beyond the difficulties which surround us here and carries the mind to the clear beyond. Our spiritual nature wants to go to the spiritual land ; our physical nature wants to remain here.

Physical courage gives the soldier boldness to rush into the ranks of the enemy and to cut away right and left, regardless of consequences. Implicit faith gives moral courage that will venture into the lion's den and the fiery furnace.

Now all these organs ought to be balanced just in proportion as mental philosophers and theologians come to the real ground of human improvement; they have to take physiology and phrenology for their basis. Man begins like seed, and has to take time to grow by a slow process. That little boy will take some time to grow into a man. The child is not a man any more than a sprout is a tree; but the sprout has all the elements of the tree, and the child has all the elements of the man; and a small seed may have in it the elements of the largest tree, but it takes three thousand years for that seed to grow into a full-sized tree, and then it is four hundred feet high, and measures seventy-five feet in girth. Man starts very small and feeble, but he has in him the elements of immortality; and it takes all his time on earth to bring all his forces into action, and it will take all eternity to mature, to perfect, and to employ those forces. I am glad that there is an eternity.

Again, man begins his existence as a physical being, with his various wants; and as the process of growth goes on, by the aid of executive power, he gratifies those wants with domestic affections, to multiply humanity with intellectual power, to understand the laws and conditions of nature with moral sentiments, as the crowning climax of our natural organization, with a spiritual nature giving us a consciousness of that for which we were created. Man is subject to the laws of nature because he is a physical being; and so there is a law of gravity which holds him to the earth. His body, as it grows, requires something to feed it, and in other ways he is subject to the physical laws. Thus, as a social being, he is parent of the race; and, as a social being, man transmits his tendencies. Man is adapted to all the laws and conditions of the physical world, and of the natural sciences, of the exact sciences, and of the mental sciences, and has a mind to study them; but a man cannot study that for which he has no mind. A man cannot comprehend that which is beyond his comprehension. We have latent powers to be developed. We have faculties of the mind adapted to the mental sciences. Every primitive faculty or power of the mind is adapted to a law, to a principle, to a condition, to an existence. There is a moral government of rules and principles, and every man has, to some extent, a consciousness of them; feels their force and their claims. There is a need that we should have a consciousness of moral government, because we ought to be

guided by its laws. There are principles of justice, of equity, and of truth; man has a consciousness of these things. Justice, equity, and truth exist, and man has faculties for perceiving and obeying; and he is not fulfilling his mission unless he cultivates these virtues in his daily life. If born with these principles weak he has to struggle the harder.

Man's happiness and success, and his improvement, depends again upon the agency of men. We are under obligations to each other. No man can succeed alone, or advance far, or develop himself much alone, or even enjoy himself much alone; and man has no business to develop himself alone, or merely to look after his own welfare and salvation; we should do something to help other people, let us desire to help one another. Now man can take care of his body, of his health, of his general physical nature, in proportion to the elevated tone of his mind; and is likely to take care of himself in proportion to the value he puts upon himself—morally and spiritually. I wish I could instil the thought into the mind of every one who hears me, that a man takes care of himself in proportion as he is a spiritual being. So far as he is merely an undeveloped human being he cares little either for his own life or for the life of other people. Remember, it is the spiritual man that looks after the well-being of the physical man; it is not the physical man that looks after the spiritual. Angels can see what men need better than they can see for themselves; and the Lord, being higher than the angels, can see better than the angels what man needs.

A man is generally somewhat satisfied with his position. Thus a savage is satisfied to be a savage, a barbarian to be a barbarian, as much so as a civilized man is satisfied with his position, or a Christian to be a Christian. All individuals are comparatively satisfied with themselves; but it is a healthy sign when they are not so well satisfied as to remain where they are. Thus, it is a sign of progress when the savage man becomes civilized, or when a civilized man becomes a Christian, because the Christian is on a higher plane, and has a higher satisfaction. You will find in human nature, generally speaking, a continual looking forward, and, to a large extent, a looking upward. The mind goes forward, it searches for something beyond its present attainments. Have you ever seen a man that was thoroughly satisfied? If so, that man was a fool. Any man that is thoroughly satisfied must virtually have stopped living, have ceased to be active and alive, must be as good as dead. There must be a spiritual existence, because man has a consciousness of it. There must be spiritual influences, because we are conscious of them.

There is a future, because there is a longing for it in man's very nature. As a part of his nature the Creator put it there, in order that we might long for it, and seek it; it is innate in us. There is a power superior to man that we call God. Every man has a consciousness of a God. The Bible does not attempt to prove that there is a God; no passage in the Bible gives in an argumentative form the statement that there is a God. It takes it for granted that man has a consciousness that there is a God, and man has this. I do not care how far down you go, if a man fairly looks into his own consciousness, there is the recognition of some power greater than himself. We think the heathens do not know much. God sees in them all the elements that He sees in you and me. He sees in a heathen a man or a woman with all the faculties that we possess. Ours have simply been polished a little; while theirs have not. We look upon them as useless, but they are merely undeveloped or rusty. A man is capable of exercising a great influence on those around him if he will take a hopeful view of their capacities, and believe that in their natures, ready to be called out, exist all the good faculties with which he himself is blest. The more a man is developed and feels his power, the more power he wants, and the higher he aspires. Man is subject to all the moral laws; and is under obligations to comply with them, and to regulate himself by them. He is conscious of their relationship, and he feels it requisite that he should live with reference to a spiritual life. A child is not to blame for being born with a bias of mind which may lead to sin, or with a bias of a physical nature that may lead to disease; and a man is not a sinner in any form simply because he has a bias to sin, he is only culpable when he does not struggle against those desires and those tendencies which he sees to be evil; and if it would be absurd in a man, because he had inherited a bias to consumption, to lie down and die of consumption instead of to take thought against it, and to use such means as are known to be preventive, or, at least ameliorative, so unquestionably a man is bound to use his power to fight against his mental defects; and he can do so very much in the proportion in which he sees them and knows them.

Our work then is to find out our mental bias, our mental tendency, our mental powers, and our mental weakness. That is our worth. The improvement of his faculties, their due direction, the strengthening of one faculty, the curbing of another, these represent man's training. If a man is nervous it is not wise in him to give way to his nervousness and let it wear him out; he should guard against its influence. Prac-

tically the way to get rid of mental friction, which is as damaging to the human mind as friction is to machinery—the way is to obey the law. That is the lesson we have to learn. I am sorry our parents do not teach us, and that our teachers are remiss in instructing us, as to the law of mind. When the law is discovered and observed, the mind works without friction. Perfect laws perfectly obeyed involve no friction, and when man fully understands the laws which should regulate his diet, his exercise, his love, his work, and so on, he will be running with freedom and will attain the highest results. It is the ignorant that come to mischief ; it is the disobedient that get into trouble, for these things cause friction. Those of us who feel that we have mental difficulties may ask, "Is there any help?" They may desire to know how they can harmonize and blend their antagonisms. The way is simple, there is no mystery about it, but it is yet often misunderstood. Some will say "Pray, pray, pray, pray;" but I tell you plainly, prayer will not do it ; we have to do it ourselves. God may help us and constantly gives us the power, but we must do it. I tell you we get a very little way toward reconciling antagonisms when we only get on our knees ; the way is actual, practical : it is to follow the order of nature. I will tell you what that order is : first to look after the body, next look after the passions, and propensities, and regulate the appetite, the selfishness, the temper, and the other antagonistic powers. Then go on to the affections, one after another, and regulate them. Regulate physical love, conjugal love, parental love, social love. We should begin with the A B C, in the endeavour to give our intellect a high direction and in the attempt to cultivate and subdue our pride and our mind, and our imagination, and to direct our powers so that they shall all act in a right direction, seek earnestly the best gift, which is the fruit at the top of the tree, closest to the sun, and then you will get the best. The man who is seeking enjoyment at the higher strata of his nature, whose enjoyments are connected with his moral nature instead of with his passions and impulses is the man who is making advance ; not the man who is satisfied to stand on the ground and pick the fruit, which the sun of heaven never shone upon. Let the lower faculties and sentiments be subject to the higher ones. Walk with an upward look, work with an aspiring mind, and you will find in proportion as you understand what man should do, and in proportion as you desire continually to rise and improve and expand, the more nearly will you approach to the perfect man. Working thus, and feeling thus, the moral region of the brain will have the ascendancy and rule over the passions

and the propensities. We shall have an honest desire to do the thing that is right; we shall have a noble ambition in doing as much good as we can. We shall feel a hearty devotion to the Creator who has established us in the world, and we shall desire to know something about that future state, which we long to see and enjoy, and which we shall best fit ourselves to enjoy by duly harmonizing our antagonisms.

THE PSYCHOLOGICAL BASIS OF RELIGION.

FUNCTIONS OF NERVOUS TISSUE.

This unquestionable fact may now be stated, namely, that, as between the two species of nervous tissue, the grey and the white, the former generally styled cineritious, and the latter (though incorrectly) medullary, the first has, in whatever situation it may be placed, distinct excitor properties, while the second is invariably annunciative. In the brain and spinal cord the former is invariably aggregated into masses or laminæ, while the latter consists of minute white fibres. Under the microscope, at 300 diameters, the gray tissue is resolvable into primitive spherical cells, interwoven with each other by means of very minute caudate and stellate processes. These cells have nuclei, fluid contents, and membranous wall, in the same manner as other fully developed protoplasmic cells, but depart somewhat from the spherical type in some quarters in consequence of pressure or of other exigencies of situation. In all their aspects these little bodies are primitive life-cells, in which, as in all other nucleated protoplasmic cells, the germinal centre is the seat of the nutritive and reproductive activities, while the fluid contents between the germinal centre and the external membranous wall are the seat of the specific property designated as neurility. The white fibres consist, in a similar manner, of a minute interior filament termed the axis cylinder, wrapped about with a cylinder of white fluid, exterior to which is the thin membranous cylinder known as the nerve-sheath. If, starting from any muscle in the human body, one of these filaments is traced to its final termination in the spinal cord or the brain, this universal fact of anatomy will be illustrated, namely, that, although often gathered into larger filaments, and finally into the cylindrical bodies termed the spinal nerves, these primitive filaments never anastomose with each other, and always end in a nerve-cell, either in the brain or in the spinal marrow, the axis cylinder being invariably a continuation of

the caudate process of the cell. The fundamental conception of a nervous system is, therefore, a cell with its caudate process continued as a nervous filament ; and this primitive type is very frequent in insect life. The nervous organism of a man, with all its complexities, consists, in ultimate analysis, of innumerable repetitions and combinations of the cell and filament.

This leads me to the correction, both on anatomical and experimental grounds, of

AN ERROR

that has been productive of no little confusion in psychological science, viz., the hard and fast division into sensory and motor nerves, and sensory and motor tracts, initiated by Sir Charles Bell, whose observations and experiments, valuable as they were in their day, have resulted in establishing an untenable distinction between the motor and the sensory activities. In point of fact, there is no difference between a motor and a sensory filament, except in the manner in which it peripherally terminates. Both commence in nerve-cells, but the motor filaments end in peculiar bodies penetrating the muscle sheaths with a nervous influence, while the sensory end in cells or papillæ, having excitor properties and capable of receiving and propagating impressions—in other words, in minute brains, only perceptible under the microscope, in the cutis vera, in the retina of the eye, on the nasal membranes, in the ear, on the tongue, everywhere where sensory impression is possible. The only difference is that a motor nerve commences in a cell and ends in a loop, while a sensory filament commences in one cell and ends in another ; and the difference between their respective functions is no doubt due to this single fact of terminal structure, not to the supposititious existence of two special types of nerve-cells or of nervous centres, the one motor the other sensory. Thus, although the gray tissue of the spinal cord is a centre of sensation, it is also a centre of reflex movements ; and when the anterior and posterior roots of a spinal nerve are traced under the microscope, some of the filaments of the two roots are observed to make an intertexture with each other, and then to merge into the cineritious cells of the spinal tissue, while others ascend to the brain, and there merge themselves into cells of the same type. The conclusion from these facts is, that there is no propriety in ascribing to certain portions of the gray tissue excito-motor properties, and to other portions excito-sensor properties as, since Bell, physiologists are in the habit of doing, but that, on the other hand, all nerve-cells

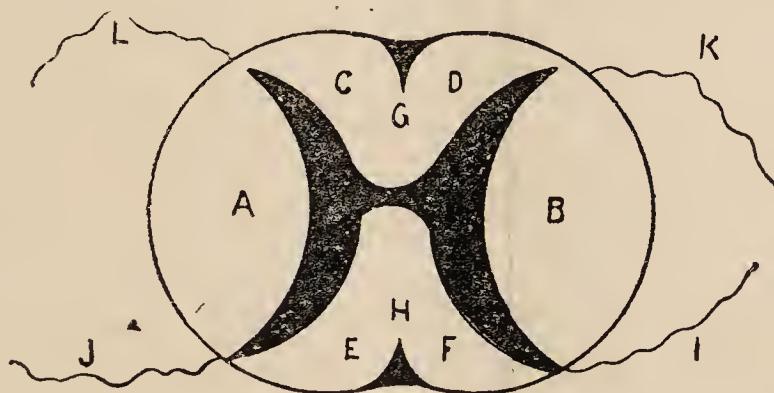
have excitator properties of the same general kind, and are capable either of sensory impression or of motor action, or of both. In the single microscopic nervous vesicle that constitutes the brain of the active, intelligent, industrious, social, and order-loving ant, a rudimentary nervous system—exercising alike motor and sensory activities—is furnished, it appears to me, an unquestionable demonstration that when the view of Bell is pushed to the extremity presented in modern physiology, it is carried considerably further than the facts justify, and complicates rather than simplifies.

The manner in which these facts of structure and function bear upon the issue between theologians and physicists is this: that under Bell's view, a nervous system is a clock of very complex construction, not a living organism endowed with an intelligence susceptible of sensory impression, originating motor movements, and co-ordinating all the complex external relations comprehended in the term *life*. A distinction must, however, be made between intelligence and consciousness, the former being synonymous with the neurility of the cineritious tissue, and dipping into all the processes of the unconscious life, the latter pertaining to the convolutions of the anterior lobes and forming the basis of the ideo-volitive activity.

In order to trace out the origin of those fundamental intuitions, the religious among the rest, that have their centres in the middle and coronal region of the brain, it is necessary to recur to facts of structure not yet discussed. A transverse section of the spinal cord will give the reader an accurate idea of the distribution of the two species of tissue, the cineritious or excitator, and the white or annunciative. The following is from a section in my possession, hardened in an acid dilution.

The cineritious tissue consists of two crescentiform bodies, united by a lamina of the same material a little anterior to the centre of the cord, so that the posterior bones are a little longer than the anterior. The posterior white cord (E F) is separated into two similar strands by a penetrating fissure (H), and these strands are united by a thin commissure of white tissue at the bottom. The anterior fissure (G) performs a similar function, and dips down upon a similar commissure. The anterior white cord conventionally includes four divisions, namely, the two represented by C D, and those represented by A and B. It should be added, however, that a thin commissure of white tissue passes between the anterior horn of each crescent and the pia mater, and joins each of the lateral divisions A and B to the anterior division C D. The spaces between J L and I K present a general idea of the liga-

mentum denticulatum that keeps apart the anterior and posterior roots of the spinal nerves, having their respective origins at the posterior and anterior horns of the crescents, and unite beyond. The reader will observe that, including the two lateral divisions A and B, the anterior white cord is thrice larger than the posterior. In a general way, the innumerable filaments composing the special anterior cord C D, pass upward and forward after entering the brain, and terminate the nerve-cells of the anterior lobes, while the posterior cord expands into the cerebellum, and the cineritious interior is continued in the olivary bodies. The two halves of the anterior cord decussate before entering the cranium. In a general way, also, the pyramidal bodies continue the anterior cord, the restiform bodies the posterior, and the olivary bodies the two cineritious crescents, these several bodies, taken together, forming the medulla oblongata and great vital centre of the nervous system.* The fibres of the corpora pyramidalia



now plunge into the pons Varolii, some of them terminating in cineritious cells within that commissure, but the majority passing through it, forming the anterior and external bundles of the crura cerebri and the exterior portions of the corpora striata, and finally expanding into the lower, frontal, and lateral convolutions of the anterior lobes, supplying also a considerable expansion of filaments to the infero-anterior convolutions of the middle lobes. From the posterior portions of these bodies spring also bundles of fibres that assist in the formation of the optic thalami (great posterior ganglia of the cerebrum), and ultimately enter into the posterior cere-

* It is very inaccurate to regard the corpora restiformia as bodies formed solely by the posterior column, as they are usually described. They are not even bodies consisting of fibres from the posterior cord, to which some anterior fibres are added, the added fibres running parallel with the others; but, on the other hand, they are bodies consisting of fibres that interlace in a very intricate manner, the interlacing filaments coming some of them from the antero-lateral columns, and some of them from the posterior. Gall and Spurzheim were perfectly aware of this fact, but have not described it in detail. I have in my possession a hardened section of a restiform body which clearly shows the course of the fibres and their exceeding intricacy of arrangement.

bral convolutions. Finally, a number of fibres, springing from the lower extremities of the corpora pyramidalia, enter into the structure of the cerebellum. I should add, while tracing the evolution of the cerebral lobes, that, although anatomists have generally coincided in regarding the cerebrum as consisting of six lobes—the two anterior, two coronal, and two posterior—the division is not well founded as regards the latter. The sylvian fissure very distinctly marks off the anterior lobes, but no such fissure separates the middle (superior or coronal) from the posterior, which have generally been held to include the portion that rests on the tentorium. It would be preferable to speak of them as the coronal and posterior regions. The anterior lobes have their special pair of ganglia in the corpora striata; the middle and posterior regions theirs in the optic thalami, improperly so called, and accurately designated by Dr. Gall as the great posterior ganglia. Again, as showing the interwoven condition of the spinal cord as it expands into the encephalon, let it be observed that the corpora restiformia, although in the main concerned in the structure of the cerebellum, are each, as it continues its half of the posterior cord, divided in ascending into two fasciculi, the anterior of which may be traced into the cerebrum; while, on the other hand, directly after decussating at the lower extremity of the medulla oblongata, each half of the anterior cord sends off a fascicle of fibres, that ascends behind each olfactory body and assists in forming the floor of the fourth ventricle. Once again, the two halves of the anterior cord, before entering into the pyramidal bodies, send off two other fasciculi, each of which envelops the corresponding olfactory body, as it ascends, and, having penetrated the pons Varolii, terminates in its respective quadrigeminal tubercle, which is connected with the corresponding hemisphere of the cerebellum by the longitudinal commissure known as the velum medullare, and with the corresponding great posterior ganglion by a commissure of medullary fibres. These bodies (the tubercula quadrigemina) consist of a cineritious interior, connected with the gray tissue of the spinal cord, enveloped with an intertexture of white fibres, and are properly entitled to be regarded as the ganglia of vision. Finally, the crura cerebri, from which spring the two great anterior and the two great posterior cerebral ganglia, as well as those ganglia themselves, refer themselves in their cineritious tissue to the ascending spinal axis; the interior gray tissue of the pons has a similar connection; and the olfactory bodies, having passed through the latter, and contributed to the crura and the great posterior ganglia, expand partly into the superior

convolutions of the coronal and posterior regions. Commencing, therefore, with the inferior extremity of the gray tissue of the spinal cord, and receiving from the peripheral nerves, on the one hand, and from those terminating in and distributed to the special organs, on the other, an infinity of various impressions, as it ascends, may be traced upward a single central excitor tract, which, as it enters the encephalon, enlarges into the olivary bodies;* pushes into the pons Varolii, that, as a great general commissure, white without and gray within, communicates with all quarters of the brain, enters into the crura cerebri, into the posterior ganglia, into the quadrigeminal bodies, and, perhaps, into the crura cerebelli; receives in its cells, in these various departments, the roots of all the nerves devoted to the special senses, with the possible exception of the olfactory; and at last expands by its radiating filaments into the superior convolutions of the brain, from the posterior margin of the lobes of ideo-volition along the coronal and posterior regions of the cerebrum. As it ascends, it gathers, pair by pair, from the entering spinal nerves all those organic impressions and instincts that are peculiar to their respective departments of organism, and agglutinates them in the olivary bodies, and finally presents them as fundamental intuitions of the good, of the beautiful, of the true, in their appropriate centres of the coronal region. Observe, as an evidence of the experimental corroboration of these views, drawn purely from structure, that the application of electricity to these regions elicits no muscular response.

(To be continued.)

EVOLUTION. †

MODERN science and its methods may be said to date back only to the beginning of the present century; and at this time

* The olivary bodies, except in their gray tissue, must not be regarded as exclusive continuations of the crescentiform cords. On the other hand, the corpora fimbriata of these bodies are wrapped about nuclei of white fibres that proceed from the respective anterior cords. They are also inclosed in a tunic of white fibres, proceeding from other departments of the column, and may be said in the completest possible way to gather the impressions and forces of the whole column into two capital ganglia before pushing upward to assist in the structure of the upper brain, those ganglia consisting of two nuclei from the anterior cords, inclosed in laminæ of excitor tissue, open at the edges, the whole being finally inclosed in an intertexture to which all the departments of the column contribute. They are far more important centres than physiologists generally assume. When I speak of olivary fibres, I mean fibres from these complex bodies in general, not especially fibres springing from their excitor cells.

† A speech delivered at the Spencer Banquet by Professor O. C. Marsh, the eminent American geologist, acting president of the National Academy of Sciences in America, a year and a half ago.

the first scientific theory of organic evolution was advanced by Lamarck. During the twenty centuries before, a few far-seeing men, from Aristotle to Buffon, seem to have had glimpses of the light, but the dense ignorance and superstition which surrounded them soon enveloped it again in darkness.

Before the beginning of the present century, it was impossible for evolution to find a general acceptance, as the amount of scientific knowledge then accumulated was too small to sustain it. Hence, the various writers before Lamarck who had suggested hypotheses of the development had based them upon general reasoning, or upon facts too scanty to withstand the objections naturally urged against new ideas.

With the opening of the nineteenth century, however, the new era in science began. Here, at the very beginning, the names of Cuvier and Lamarck stand forth pre-eminent ; and the progress of natural science from that day to the present is largely due to their labours. Cuvier laid the foundation of the study of vertebrate animals, living and extinct ; but with all his vast knowledge he was enslaved by the traditions of the past. Although the evidence was before him, pointing directly to evolution, he gave the authority of his great name in favour of the permanence of species.

Lamarck made a special study of invertebrate animals, and his investigations soon led him to the belief that living species were descended from those now extinct. In this conclusion he found the germ of a theory of development, which he advocated earnestly and philosophically, and thus prepared the way for the doctrine of evolution, as we know it to-day.

The methods of scientific investigation introduced by Cuvier and Lamarck had already brought to light a vast array of facts which could not otherwise have been accumulated, and these rendered the establishment of the doctrine of evolution for the first time possible. But the time was not yet ripe. Cuvier opposed the new idea with all his authority. The great contest between him and Geoffroy Saint Hilaire, the strongest advocate of Lamarck's views, is well known. Authority, which in the past had been so powerful in defence of tradition and creed, still held sway, and, through its influence, evolution was pronounced to be without foundation. This triumph of Cuvier delayed the progress of evolution for half a century.

During this period, however, the advance in all departments of science was constant, and the mass of facts brought together was continually suggesting new lines of research, and new solutions of old problems. In geology, the old idea of catastrophes was gradually replaced by that of uniform

changes still in progress; but the corollary to this proposition, that life, also, had been continuous on the earth, was as yet only suggested. In the physical world the great law of the correlation of forces had been advanced, and received with favour; but, in the organic world, the miraculous creation of each separate species was firmly believed by the great mass of educated men. The very recent appearance of man on the earth and his creation independent of the rest of the animal kingdom were scarcely questioned at the close of the first half of the present century.

When the second half of the century began, the accumulation of scientific knowledge was sufficient for the foundation of a doctrine of evolution which no authority could suppress and no objections overthrow. The materials on which it was to be based were not preserved alone in the great centres of scientific thought, but a thousand quiet workers in science, many of them in remote localities, had now the facts before them to suggest a solution of that mystery of mysteries, the Origin of Species.

In the first decade of the present half century, Darwin, Wallace, Huxley, and Spencer were all at the same time working at one problem, each in his own way, and their united efforts have firmly established the truth of organic evolution. Spencer did not stop to solve the difficulties of organic evolution, but with that profound philosophic insight which has made him read and honoured by all intelligent men, he made the grand generalisation that the law of organic progress is the law of all progress. To show how clearly, even in the beginning, he comprehended this great truth, let me recall to you one sentence which he wrote five-and-twenty years ago.

"This law of organic progress is the law of all progress. Whether it be in the development of the earth, in the development of life upon its surface, in the development of society, of government, of manufactures, of commerce, of language, literature, science, art, this same evolution of the simple into the complex, through a process of continuous differentiation, holds throughout."

How completely the truth of this statement has since been established you all know full well.

The evolution of life and of the physical world are now supplemented by the evolution of philosophy, of history, of society, and of all else pertaining to human life, until we may say that evolution is the law of all progress, if not the key to all mysteries. These profounder departments of evolution I leave to others, for, in the few minutes allotted to me I cannot attempt to give even an outline of the progress of evolution in biology alone.

If, however, I may venture to answer briefly the question, What of evolution of to-day? I can only reply: The battle has been fought and won. A few stragglers on each side may still keep up a scattered fire, but the contest is over, and the victors have moved on to other fields.

As to the origin of species, once thought to be the key to the position, no working naturalist of to-day who sees the great problems of life opening one after another before him will waste time in discussing a question already solved. This question, so long regarded as beyond solution, has been worked out by that greatest of naturalists, whose genius all intelligent men now recognise, and whose recent loss the whole civilised world deplores.

Not only do we know to-day that species are not permanent, but every phase of life bears witness to the same general law of change. Genera, families, and the higher groups of animals and plants are now regarded merely as convenient terms to mark progress, which may be altered by any new discovery.

All existing life on the earth is now believed to be connected directly with that of the distant past, and one problem to-day is to trace out the lines of descent. Here embryology and paleontology work together, and the results already secured are most important. The genealogies of some of the animals now living have been made out with a degree of certainty that amounts to a demonstration, and others must rapidly follow.

In this, and in all other departments of natural science, the doctrine of evolution has brought light out of darkness, and marks out the path of future progress. What the law of gravitation is to astronomy the law of evolution is now to natural science. Evolution is no longer a theory, but a demonstrated truth, accepted by naturalists throughout the world.

The most encouraging feature in natural science—indeed, in all science to-day—is the spirit in which the work is carried on. No authority is recognised which forbids the investigation of any question, however profound; and, with that confidence which success justly brings, no question within the domain of science is now believed to be insoluble; not even the grand problems now before us—the antiquity of the human race, the origin of man, or even the origin of life itself.

GAIETY is not a proof that the heart is at ease, for often in the midst of laughter the heart is sad.

MOVED FROM AFAR.*

I. THE EMOTIONS.

WE will select a few accounts from witnesses not likely to be accused of sentimental exaggeration :—We begin with two closely allied narratives from gentlemen of acknowledged scientific position. And we may remark in passing that men of science—who are not, of course, a large class—contribute, we think, quite their proportional quota to our collection of evidence throughout. The following case was sent to Professor Sidgwick by the Rev. J. M. Wilson, head-master of Clifton College, a senior wrangler and well known mathematician † :—

“Clifton College, Jan. 5, 1884.

“The facts were these, as clearly as I can remember.

“I was at Cambridge at the end of my second term, in full health, boating, football-playing, and the like, and by no means subject to hallucinations or morbid fancies. One evening I felt extremely ill, trembling, with no apparent cause whatever; nor did it seem to me at the time to be a physical illness, a chill of any kind. I was frightened. I was totally unable to overcome it. I remember a sort of struggle with myself, resolving that I *would* go on with my mathematics, but it was in vain: I became convinced that I was dying.

“I went down to the rooms of a friend, who was on the same staircase, and I remember that he exclaimed at me before I spoke. He put away his books; pulled out a whisky bottle and a backgammon board, but I could not face it. We sat over the fire for a bit, and then he fetched some one else to have a look at me. I was in a strange discomfort, but with no symptoms I can recall, except mental discomfort, and the conviction that I should die that night.

“Towards eleven, after some three hours of this, I got better, and went upstairs and got to bed, and after a time to sleep, and next morning was quite well.

“In the afternoon came a letter to say that my twin brother had died the evening before in Lincolnshire. I am quite clear of the fact that I never once thought of him, nor,

* From a most interesting and suggestive paper on Apparitions, in the *Nineteenth Century*, by Messrs. Edm. Gurney and Fred. W. H. Myers.

† Most of the informants quoted in these articles are privately known to us. But since it happens that many of them bear well-known names, we have thought it better to omit in all cases the statement of our acquaintanceship, rather than to assert it in cases where our personal attestation of confidence would have looked highly superfluous. We may add that the narratives here given are, of course, mere samples from a very large collection, which we hope soon to lay before the public in its entirety.

was his presence with me even dimly imagined. He had been long ill of consumption, but I had not heard of him for some days, and there was nothing to make me think that his death was near. It took me altogether by surprise.

“ JAMES M. WILSON.”

Our next case is also from a scientific witness who can hardly have been tempted to exaggerate, since the experience which he thus records greatly impairs the force of the main thesis of his book, which is directed *against* the transmission of obscure influences (mesmeric and the like) from one person to another.

[*Translation of pp. 71-73 of “Der sogenannte Lebens-Magnetismus oder Hypnotismus,” by Dr. E. L. Fischer, of Würzburg (1883).]*]

“ When I was a student at the university I experienced, on waking one morning, a quite extraordinary feeling of sadness. I was not in the slightest degree unwell, and was aware of no reason for distress, and my state of depression consequently made a great impression on me—the more so that I normally enjoy the best spirits. I asked myself what could be the meaning of it, and whether some serious illness must not be impending. I made every effort to banish this deep melancholy, and especially to assume a gay demeanour in the presence of my friends ; but all my efforts were unavailing. Before lecture two of them asked me what was the matter ; they said I must have something heavy on my heart. During the whole forenoon I remained in this state of dismal wretchedness. All at once a telegram arrived from home, informing me that my grandmother was taken very ill, and that she was earnestly longing for me. There I had the solution of the riddle. Nevertheless from that hour my melancholy gradually decreased, and in spite of the telegram it completely disappeared in the course of the afternoon. In the evening I received a second message to the effect that the danger was over. In this way the second phenomenon, the rapid decrease of my wretchedness—a circumstance which in itself was surprising, inasmuch as the melancholy should naturally rather have *increased* after the receipt of the first news—received its explanation : for the afternoon was just the time when the change in the patient’s condition for the better took place ; and the danger to her life once over, her yearning for my presence had decreased ; while simultaneously my own anxiety was dispelled.”

We have space for one more instance, which is at any rate sufficiently terse and business-like :—

"20, Rankeillor-street, Edinburgh, Dec. 27, 1883.

"In January 1871, I was living in the West Indies. On the 7th of that month I got up with a strange feeling that there was something happening at my old home in Scotland. At 7 a.m. I mentioned to my sister-in-law my strange dread, and said that even at that hour what I dreaded was taking place.

"By the next mail I got word that at 11 a.m. on the 7th of January my sister died. The Island I lived in was St. Kitts, and the death took place in Edinburgh. Please note the hours and allow for difference in time, and you will notice at least a remarkable coincidence. I may add I never knew of her illness.

"A. C——n."

In answer to inquiries Mr. C——n adds:—

"I never at any other times had a feeling in any way resembling the particular time I wrote about. At the time I wrote I was in perfect health, and in every way in comfortable circumstances."

If further proof be needed that we have not to go to weak or hysterical sources for evidence of these vaguer and more emotional sorts of telepathic impression, we may add that our collection includes under this head accounts from two informants who, in very different ways, have obtained the highest reputation as acute and accurate observers—Mr. Henry James and Mr. J. N. Maskelyne.

II. THE WILL.

We choose an experimental case which is of interest as showing a "subject" midway between the normal and the mesmerised condition. It is interesting, too, as the first publication, on first-hand authority, of an after-dinner incident which made much sensation in Yorkshire society when it occurred, and which even twenty years afterwards was still alluded to with bated breath as a manifest proof of the alliance of mesmerists with the devil. The modern inquirer will rather regret that this diabolical assistance was so frequently perverted to mere works of charity and mercy; for Mr. H. S. Thompson (formerly of Fairfield, now of Moorlands, near York) has devoted his almost unique mesmeric power mainly to the cure and comfort of his tenantry and poorer neighbours, and has only incidentally made, and rarely recorded, those experiments on "the silent power of the will" which few men, we fear, in a generation are able to repeat.

"Moorlands, York, November, 1883.—Dear Sir,—I will give you a sketch of some of the experiments I have tried,

and which lead me to the conclusion that the will is sufficient to influence some people either far or near. In 1837, I first became acquainted with mesmerism through Baron Dupotet. The first experiment I tried was upon a Mrs. Thornton, who was staying with some friends of mine, Mr. and Mrs. Charles Harland, of Sutton. She told me that no one had ever succeeded in mesmerising her, though she soon submitted to being mesmerised by me. She went to sleep at once, and was very strongly influenced by my will. One night when I was dining with Mr. Harland, after the ladies had left the room, some gentleman proposed that I should will her to come back again, which I did. She came directly, and after this I could not go to the house without her going to sleep, even if she did not know that I was there. I have met with many cases of thought-reading, but none so distinct as in a little girl named Crowther. She had had brain fever, which had caused a protrusion of the eyes. Of this ill effect I soon relieved her, and found that she was naturally a thought-reader. I practised on her a good deal, and at length there was no need for me to utter what I wished to say, as she always knew my thoughts. I was showing some experiments to a Dr. Simpson, and he asked me to will her to go and pick a piece of white heather out of a large vase full of flowers there was in the room, and bring it to me. She did this as quickly as if I had spoken to her. All these experiments were performed when the girl was awake, and not in a mesmeric sleep.—Believe me, dear Sir, yours truly, HENRY STAFFORD THOMPSON."

The following cases differ from the last in that the desire became operative at a distance, without any expectation of such a result on the part of the person who exercised it.

Extract from a letter to Professor Sidgwick.—"Cathedral Yard, Winchester: Jan. 31, 1884—Sir,—As a constant reader of the *Times*, I have noticed the 'Proceedings' of the Psychical Society, and as your society has invited communications, I respectfully beg to offer you a short statement of my experience on a subject which I do not understand. Let me premise that I am not a scholar, as I left school when twelve years of age, in 1827, and I therefore hope you will forgive all sins against composition and grammar. I am a working foreman of masons at Winchester Cathedral, and have been for the last nine years a resident of this city. I am a native of Edinburgh. It is now more than thirty years ago that I was living in London, very near where the Great Western Railway now stands, but which was not then built. I was working in the Regent's Park for Messrs. Mowlem, Burt, & Freeman,

who at that time had the Government contract for three years for the masons' work of the capital, and who yet carry on a mighty business at Millbank, Westminister. I think it was Gloucester-gate, if I mistake not; at all events it was that gate of Regent's Park to the eastward of the Zoological Gardens, at the north-east corner of the Park. The distance from my home was too great for me to get home to meals, so I carried my food with me, and therefore had no call to leave the work all day. On a certain day, however, I suddenly felt an intense desire to go home, but as I had no business there I tried to suppress it—but it was not possible to do so. Every minute the desire to go home increased. It was ten in the morning, and I could not think of anything to call me away from the work at such a time. I got fidgetty and uneasy, and felt as if I must go, even at the risk of being ridiculed by my wife, as I could give no reason why I should leave my work and lose 6d. an hour for nonsense. However, I could not stay, and I set off for home under an impulse which I could not resist. When I reached my own door and knocked, the door was opened by my wife's sister, a married woman, who lived a few streets off. She looked surprised, and said, 'Why, Skirving, how did you know?' 'Know what?' I asked. 'Why, about Mary Ann.' I said, 'I don't know anything about Mary Ann (my wife).' 'Then what brought you home at present?' I said 'I can hardly tell you. I seemed to want to come home. But what is wrong?' I asked. She told me that my wife had been run over by a cab, and been most seriously injured about an hour ago, and she had called for me ever since, but was now in fits, and had several in succession. I went upstairs, and though very ill she recognised me, and stretched forth her arms and took me round the neck and pulled my head down into her bosom. The fits passed away directly, and my presence seemed to tranquillise her, so that she got into sleep, and did well. Her sister told me she had uttered the most piteous cries for me to come to her, although there was not the least likelihood of my coming. This short narrative has only one merit; it is strictly true.—ALEXANDER SKIRVING."

Dr. Fischer, whom we quoted, describes how he was himself once driven forth from the midst of a jubilee-dinner, by the urgent desire (as it turned out) of a person whose need of his attendance was at the time quite unknown to him; and we have reason to believe that the experience is by no means unique in medical practice. We received the following very similar case from Mrs. Clow, 11, Upper Hamilton-terrace, N. W.:—

"Dec. 17, 1883.—On Dec. 2, 1877, I was at church. My children wished to remain at a christening. I said, 'I cannot; somebody seems calling me; something is the matter.' I returned home to find nothing; but the next morning two telegrams summoned me to the death-bed of my husband, from whom I had had a cheerful letter on the Saturday, and who left me in excellent spirits the Tuesday before. All Sunday he was dying, and my friends could not telegraph, and there was no train. I only arrived in time to see him die. As soon as I read your letter, my sons both said they remembered the circumstance quite well, and signed the enclosed. George was ten years old, John twelve years.—ELLEN CLOW."

"We remember perfectly our mother leaving the church, saying she felt she was wanted—some one was calling her. The next day our father died, December 3, 1877.—GEORGE CLOW, JOHN A. CLOW.

Here we have instances of an impression powerful enough to produce a distinct and unusual course of action—for Mrs. Clow assures us that under ordinary circumstances she would certainly have remained where she was—yet so obscurely seated in the mind that its own source remains unrealised and unknown.

Facts and Gossip.

MR. J. COATES, the well-known phrenologist of Glasgow, has just removed to larger and more commodious premises, situate at No. 9, Argyle Street, where we hope he will meet with every success.

THE last, and therefore in some respects the most valuable, book upon pre-historic man is that which has just been published by M. de Quatrefages, member of the French Institute, who describes the results of some careful inquiries made by him and Dr. Hamy, Director of the *Ethnological Review*. These gentlemen have come to the conclusion that the original sections into which the human race was divided numbered six, and were distinguished one from another by their aptitudes as well as their physical structure. The subjects studied were mostly furnished by the French Museum of Natural History, at which institution M. de Quatrefages holds an official position as Professor of Ethnology. One of the arguments attempted in the book is that designed to prove that the early men hunted not only such animals as we now account beasts of the chase, but also some of those which we regard as extinct monsters, and which at one time were supposed only to have been in existence at a period when man had not yet appeared. If this argument of the

Professor's is correct, there must have been in Europe, a few thousand years ago, some "tall sport," which the most adventurous Nimrod could not secure for himself in these days. The pursuit of a mammoth must have been exciting, when the pursuers had no better weapons than stone battle-axes; and it must have been interesting, in more senses than one, to be in at the death when an ichthyosaurus was the quarry. Then another theory argued out in the book shows how the modifications effected in the habits of men were the result of much more gradual causes than was once supposed. "Prehistoric" men were living in one part of the world long after civilised life had been going on in other parts; and of the great variety of separate species and sub-species into which mankind has been divided, some have perished after an exceedingly brief existence, leaving no trace except fossil remains; while others, apparently less vivacious, but meeting with better luck, have perpetuated their rude existence even down to close upon our own time.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions:—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

T. T. (Leicester).—Your intellectual abilities are fair naturally, but they need sharpening up. You need to read, study, and in every way to exercise your memory, which is at present a little below par. You need to make a study of out-door things. You are more given to looking than to observing, and this defect you need to overcome, not necessarily by thinking less, but by observing, and making yourself acquainted with facts more. It would be well for you to practise the use of various tools as much as possible. Your abilities in other respects are fair, and perhaps above the average, but if you want to do the best possible with yourself, get among people who know more than you do, and learn from them.

J. L. (Kensington), is an oddity, full of power, much of which he has not yet learned to use, and probably never will. His character is uneven, being made up of a number of strong powers and some weak ones. He has a strong will, and is very determined; quite persevering, and intends to make his mark in the world in one way or another. If he had been educated thoroughly, he would have made a marked man. He may do so as it is, but the exercise that he exerts will not be so complete as it might have been with better chances for education. He has a great deal to say both funny and

wise ; but his language is not equal to his thought, and it would take a great deal of practice and study to make him an easy speaker, but he will be an effective one. He is very shrewd, and knows what he is about. He can generally make people do much as he likes. He has a good deal of talent, but it would take more space than we have at disposal here to speak of the different points.

P. H. LENNEY (Iowa).—This is a man of immense strength. He can work hard, and longer than most men ; he is seldom tired with his day's work, and he soon rests and recruits, and could more easily do a hard week's work right on, with hardly any sleep, than most men. He is better fitted for hard, outdoor work ; for farming, engineering, navigation, exploration, mining enterprise, and things of that kind that require immense strength, energy, and working power, than for anything else. In almost any of those departments he could make his way ; but if he got into a small sphere like a village shop, or anything of that kind, he would fail, because hard work, and plenty of it, is necessary both to his mental and physical health. He can do a thing much better than he can show any one else how to do it. He is a naturally good mechanic, very ingenious, and quick at devising ways of doing things ; but his memory is not good except for things he has done, or seen done, and generally for what has come under his experience. Is naturally honest, straightforward, and kind-hearted ; but he can be very stern with those who do not come up to his idea of right and justice.

F. G. A.—Is of a very affectionate disposition, devoted in her attachments, and generally sincere in character. She has a good intellect, and could make a good scholar ; has fair musical powers, and appears to have more than common ability for drawing and designing ; has an excellent memory, is naturally orderly, and good at calculation. The moral brain is well represented, especially in regard to conscientiousness ; has a fair amount of energy, but none too much. Is fitted for housekeeping and companionship.

P. (Gwyneth) has a compact and vigorous constitution, is intense in tone of mind, and has the quality of organization favourable to high culture. There is nothing slip-shod in her organization, but she will be up to the mark most of the time, and she will exert a distinct influence in the world ; she has an available intellect ; readily gathers knowledge, and takes a common-sense view of things ; is sharp and intuitive in her mental discernments ; readily applies knowledge ; is respectful and rather modest ; not bold probably, nor cheeky ; is decidedly affectionate, and domestic ; could love strongly, but not without the consent of her intellect ; is thorough in what she does, has application of mind ; finishes things as she goes along, and is characterized for order, method, and system.

T. H. B. (Macclesfield).—You are characterized for strength of character, solidity of constitution and organization ; settledness of opinion and distinctness of purpose ; are more sound, sensible, and thoughtful than showy, brilliant, or imaginative. You have capacity

to examine subjects equally well in science or philosophy, with the same attention. You are much inclined to criticise, discriminate, and reduce everything to its most perfect application. You have a full share of force and energy, but you are more characterized for stability and perseverance. You have a high standard of action, and are not satisfied, unless you are continually improving and doing good. Your influence is intellectual and moral.

E. R. has an ardent, earnest mind ; is quite sincere, and means what she says and does ; is more settled and uniform in character than ordinary. Was rather premature as a child, and never catered much to fashion or display ; and cannot act contrary to her own feelings ; has no pretensions beyond what are real states of mind ; acts out her real self and disposition ; is methodical, close in observation, quite intuitive in discerning character, and correct in her practical judgment. Her sources of enjoyment are intellectual and moral ; she seeks that class of society for her friends. She can love, but is very particular about her male friends ; she prefers the company of a few rather than the many ; she commands respect first, and love afterwards. She has strong prejudices for and against ; is energetic and industrious ; is a severe critic, and not easily pleased. She "blarneys" none, and yet is quite a talker and clear reasoner.

S. N. W.—You are by nature adapted to study and investigation, and are in your element as a speaker and debater. If the circumstances are at all favourable you should devote yourself to professional life ; learn the languages, understand the grammar, &c. You would succeed as a legislator. You are full of new ideas, but someone else can use your ideas better than you can, for your talents are not so practical, scientific, and theoretical as philosophical. You have energy, enterprise, and ambition. You should be in public life. You have none too much fear and restraint, but you have plenty of push and go-a-head.

D. A. K.—You have an earnest, ardent mind; are a seeker after positive, practical knowledge ; you place a high value on facts, are a close observer, are a good judge of things, and of their quality. You could succeed in some scientific pursuit. You have much to say, but are not a copious talker ; you are more truthful and pointed in your remarks than youthful and witty. You are comparatively mild in disposition, but you are firm and steady in purpose ; are kindly disposed, and anxious to do good ; not very worldly wise. You are adapted to a profession requiring experience and observation. You must write down your ideas and experiences.

J. G. (Matlock).—You have a fair condition of physiology for health and strength, but in order to be healthy you should be employed in out-of-door labour or in some sphere which would allow you to be actively employed, physically as well as mentally, and to be out doors a considerable portion of the time. Sedentary employment would, sooner or later, discover a weak place in your lungs. Phrenologically you are fairly well developed : there appears to be no deficiency,

except, perhaps, in regard to memory, which you should strengthen by every means, especially by careful reading and by taking care to remember what you read, and what is told you. Your perceptive faculties are the best, and they fit you for the study of external nature, for the accumulation of facts, and for mechanical work. You have a fair amount of constructive power and some musical ability. You ought to succeed in trade, because you know what money is worth, and can make it do more than most people, although you have a fair amount of energy and are too much inclined to keep in the back ground.

E. C. (Preston).—Your constitution might be considerably improved by taking regular physical out-door exercise, and by the careful avoidance of too sedentary an occupation. Your abilities lie in the direction of clerkship, teaching, or journalism. You have a good deal of ability in one way or another, but it is not of so definite a kind as might be. You are almost too much given to thought and too little to observation. Your memory of events is good, but of facts rather poor. You could manage a buisness where good understanding and system are required, but you are not so well fitted to be in some business out of doors.

E. B. (Bantry).—The lady is of strong constitution, she should (accidents set apart) live far beyond the three score years and ten. She has a strong physical organization and is adapted to hard work. It will not do for her to play the fine lady and sit in her easy-chair and sew, but she must be knocking about in-doors and out if she wants to be healthy. Her phrenology is a little uneven, and she will be noted for some extremes of character; has considerable temper, plenty of will, and a little lack of reverence, but she appears to be honest and is certainly well meaning. She will love like a church on fire, and as a house-wife she will be a good manager and worker. She has so much strength in her nature that it will take all the religion she has to mellow and tone it down.

T. P. (Leeds).—It is difficult to say much about these photographs, they are so badly taken, but the head appears to be fairly well developed, and with fair chances for education and culture you should have made a moderately clever and consistent man. It would have been well if there had been a little more of the social element. A little more energy and perseverance, and greater breadth of moral power. Intellect is the best; it shows observation, memory, order, criticism, talking, talent, and general understanding.

No way has been found for making heroism easy, even for the scholar. Labour, iron labour, is for him. The world was created as an audience for him—the atoms of which it is made are opportunities.—*Emerson.*

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Phrenological Magazine.

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THE RIGHT HON. H. C. E. CHILDERES.

THE likeness of the above gentleman indicates a striking character—a positive man without much disposition to compromise. He should be known for the strength of his feelings, his likes and dislikes, his force and executive power. The base of his brain is large;



he has a strong hold on life; possesses by nature a powerful constitution, and would contend vigorously with disease before he would give up the struggle.

He appears to have more force, courage, push, and pluck, than prudence, judgment, and forethought; at least there is none too much restraining, guiding power when excited. He has strong likes and dislikes, and takes very positive ground, and is on one side or the other. He is no middle, half-way man; nor is he easily disposed of, for he has the faculty to stick when he once takes his position, and he is slow to change unless it is for the better. He loves authority and is willing to take responsibility, and has no disposition to shirk duty.

He is liable to exercise more authority and take more responsibility than is necessary, rather than not enough. He is a good liver, and looks after the wants of the body. He appears to have a strong mixture of the qualities to make a conservative or a radical man. He is not restrained by fear, and yet secretiveness would give him considerable feeling and tact. He has the elements of economy, does not spend money lavishly; he watches the outgoes, and takes care of the incomes; can make close calculations. He shows his generosity in other ways besides giving his money, and he sees more chances to make than to spend. He has great powers of observation, is alive to all that is going on around him; he quickly takes stock of the situation, and is prepared for action without delay. He has availability of intellect, and a sagacious, intuitive cast of mind, and he quickly discerns what is true and what is false, and is disposed to be governed by his first impression and impulses.

Although he has great force of character, energy, and determination of mind, yet he has apparently strong sympathies, tender feeling, good will towards others, and great regard for whatever is superior and noble. As a speaker, he should be earnest, forcible, and pointed in his style. When thoroughly roused by any subject, he is a great power, and he feels his strength to such an extent that he is anxious to make his powder and shot do double duty, or to attempt more than he can reasonably expect to accomplish. Yet usually he is reticent about private and personal affairs, and does not disclose what he ought to keep to himself.

In short, Mr. Childers is a kind, careful, considerate, orderly, calculating, economical, pains-taking man. Even when he does things apparently the most rashly, he has carefully thought the matter out beforehand, and taken most things into account. His best gifts are his practical common-sense, his keen observation, his memory, and his critical acumen and ability to look straight into a thing.

L. N. FOWLER.

OUR BOYS AND GIRLS.*

THE lecturer said, the organisation and the qualities of the child should be taken into account in governing and educating it. We must find out the organisation and disposition of each child. One child differed from another very materially in quality and capacity. The destiny of the child, he said, was shaped by its parentage before its birth. Great and distinguished men, some of them, were so because of their parentage, not because they had been to college or had a superior education. Some of the greatest dunces and those most unable to get their living were those who had been to college and studied all their lives, while the man who had not been to college and had not had much of a chance of educating himself had perhaps accumulated property and worked himself up in society. The lecturer enjoined on parents the desirability of teaching children to speak when they were spoken to, that was, not being silent when asked a question, and of allowing the children themselves to answer questions put to them. Parents made mummies of children by the system under which they were brought up in not being allowed to speak for themselves, and when they went a-courtting the girl had to pop the question. Children required the influence of both parents ; they wanted both the masculine and the feminine influence. If a child had only the influence of one parent it was a one-sided child. The lecturer objected to parents singing a child to sleep. The real way was, he said, to put the child down and let it go to sleep ; or if it did not want to go to sleep let it alone. Children needed to cry ; it did them good to cry, and a parent need not be so concerned because it did so. It was a matter of necessity that the child should cry to get lung power. Mismanagement of children had a powerful influence for evil. Most parents meant well enough, but were not guided by judgment in what they did to their children. Parents should not acknowledge before their children their inability to manage them. He had heard many a mother say this, but had always checked her for doing so. There were some women who had been reading novels up to the time that they got married, and did not know how to manage a child. They wanted to get married very much but did not know how to manage married life. Breaking promises to children made them very bad. He heard a mother say to her child, "I will throw you overboard if you do that again." The child went right straight and did it, and the mother never

* The substance of a Lecture, delivered in Ulverston, by Mr. L. N. Fowler.

said a word. The child knew that she was lying, because she had told so many lies before. He did not say that if you promised to throw a child overboard you ought to do it, but you had better be careful what you did promise and then do it. Children should be taught to take responsibilities upon themselves. One of the greatest evils to society was that parents were so kind, so good, so tender to their children that they took all the responsibilities, and the child did not take any responsibility until it went out for itself. Now the real way to train a child was to train it up to be able to take responsibility when it did go out. It was the parent's business to teach the child to govern itself. The child was angry, perhaps, and you were angry too and punished the child because it was angry. Did it do any good when you were in a temper to punish a child when in temper? It was the parent's duty to keep temper and encourage the child to do so. A child should be taught more self-dependence, and if it wanted a tumbler it should be allowed to have one; it had to break it some time before it learnt how to handle it, and it might as well break it at five as at twenty-one. If a child was ill it could take care of itself. If a wet bandage was required for it, let the child put it on itself. It was astonishing how much we did for children that they might do for themselves. Sometimes the child had very large Cautiousness, and if it had it should not be threatened with a bugaboo under the bed. One child did not believe it and got up and crawled under the bed to see. The lecturer strongly condemned the practice of whipping children in anger, denying that this had any moral effect. He asked parents if they ever prayed with their children before punishing them. His father whipped him once. He told him if he did a certain thing again that he had done three times he would punish him. He did it a fourth time, and his father said he would punish him, not then, but next Monday morning at ten o'clock, and told him to meet him at that time. He met his father, who sat down and talked to him and showed him the two ways of life—to ruin and to salvation, asking him which he meant to pursue, then knelt down and prayed with him, and then punished him with tears in his eyes. He did not need any more punishment; that lasted him for his lifetime. If parents prayed for their children before punishing them and punished them with tears in their eyes it would have a better effect than getting angry and doing it in a temper. Children should not be deceived in answers to questions on subjects above their age or comprehension, but should be answered correctly or told plainly that the time had not come for answering them. A child lost

respect for a parent on discovering in after years that he or she had been deceived by that parent in the answer to a question.

The lecturer enjoined great carefulness as to what children read, remarking that many a boy went to ruin because of the perverted imagination he got from what he read, and many a girl had her mind warped out of its natural shape because she was so full of those novels that were untrue and overstrained. Right and wrong reading were at the foundation of mischief almost beyond redemption. When children began by getting their imagination perverted it was very difficult to sanctify that imagination. Leaving a fortune to a child did more harm than a good many thought. Men were enslaving themselves to get money to leave to their children. They did not educate their children to look after their property, and when they came to it at twenty-one years of age they spent it in dissipation and riotous living. Let a child have the satisfaction and the glory of working out its own advancement in the world. He did not say that a parent was not to give a child a shilling. It was as important that girls should learn to do well as men, and more so, because there were more women than men—65,000 more women than men in England. It was insulting to the woman that if she performed a man's work she should be paid half price. If she could do what a man could she should be paid like a man. The lecturer descended on the necessity of checking the spirit of cruelty in a child as exemplified in the treatment of animals, flies, &c. He also commented on the trickery and deception prevalent in business as things which should be insured against in the education of the child. He particularly enjoined upon parents the necessity of appealing to a child's own self-respect, its pride and dignity, as a means of inducing it to do right, and as being much preferable to the employment of the rod, and instanced how schoolboys were cured of misbehaviour by the mistress appealing to them to help her in maintaining good conduct in the school. He emphatically condemned the practice of exposing the faults of children, which he said often led to their ruin; and mentioned the case of a child, so dealt with by his father, resolving to thrash him when big enough to do it, and coming some distance after an interval of thirty years to thrash his father in his old age. Politeness was strongly inculcated by the lecturer, who remarked that a boy who was not polite to his mother was polite to no one else. Parents sometimes treated their children, he observed, as if they were criminals, but criminals were made, not born. The parents transmitted tendencies to their children and then

punished them for having them. That old theology had to be got rid of, that we were born full of the devil. The devil came afterwards. This theology was almost dead ; and would be dead before long. We were wicked, there was no doubt, and bad enough, but it was not because there was a devil, but because we were so devilish. Children got evil tendencies not from the devil, but from their parents. The lecturer in the course of further remarks stated that the age between seven and fourteen was the time when you got the man or the woman in the child, and saw what it was going to be more than at any other period. He particularly dwelt upon the necessity of love to children as being as much required by their natures as the sunlight was needed by a plant. He alluded to the philanthropic efforts made to promote the welfare of children, mentioning how a number of young Arabs had been taken from an institution in London to Canada, with the result that ninety-five out of one-hundred had become good citizens.

THE PSYCHOLOGICAL BASIS OF RELIGION.

GRAND DIVISIONS OF CEREBRO-MENTAL FUNCTION.

The result of this cursory review of the ascertained facts of nervous structure and function is clearly to establish the position that, excluding the infero-lateral convolutions, which specially co-ordinate the animal functions, the cortex of the brain represents three great groups of centres, the limits of which correspond very nearly with the general division into lobes. The anterior group may be designated as ideo-volitive, and includes all the various attitudes of the perceptive and rational faculty, with appropriate centres for the expression of intelligence. The coronal group may, with equal propriety, be styled the ideo-religious, and is the centre of all those spiritual intuitions and those imaginative reveries that spur on man to the higher life. In a collective way, its activities are described by the term *faith*. The posterior group may be described as ideo-social ; it being understood that only in so far as they became objects of consciousness, and hence conceptions of the intellect, can the social promptings be distinguished as ideas, and that they are in the lives of men more or less unconscious in their operations.

To be more minute as to the connection of the gray axis with sensation, a few secondary facts must be noted and commented upon. Just above the anterior extremities of the corpora restiformia there are two large striæ of cineritious

tissue, which transversely traverse the floor of the fourth ventricle and assist in forming the roots of the auditory nerves ; and so important are they to the function of hearing that deficiency in either fasciola cinerea is invariably accompanied with proportionate deficiency of function in the auditory nerve that it supplies. As it ascends, also, it contributes special deposits of ganglionic (gray) tissue to the roots of the spinal accessory, glossopharyngeal, and hypoglossal nerves, and to those of the par vagum, thus becoming interwoven with the sensory nerves of the upper portion of the trunk ; supplies the ganglionic centres of the quadrigeminal bodies, which are the true ganglia of vision, the optic thalami being only concerned in the muscular movements incident to the act of vision, as the turning of the eyes or of the body ; then pushes forward and forms the pons Tarini and the mammillary bodies, assisting in the thalami, the crura cerebri, and the corpora striata ; although the gray layers of the latter are not so intimately associated with this excitor axis as the bodies previously named. In other words, it is the axis of sensation, and supplies in the course of its ascent the excitor ganglia of all forms of sensory impression, the process of olfaction excepted, the nerves of which are rooted in the extreme posterior convolutions of the anterior lobes. In this fact the student of psychology is in possession of the structural reason why, while audition and vision have given special arts of painting and sculpture, poetry and music to human life, olfaction has, on the other hand, in no way contributed to artistic creation. It has its roots, to be more explicit, in the rational, not in the imaginative lobes. Next, if the reader will carefully study the convolutions of the human brain, he will observe that many of the coronal ones start from the pons Tarini, which is the mesocephalic limit of the excitor axis.

THREE SPECIFIC SETS OF IMPRESSIONS,

all of them sensory in their type, are gathered by this excitor axis of the nervous system, as it ascends, and finally distributed into appropriate centres of activity in the coronal and posterior convolutions.* They are as follows :

i. Organic impressions, or those arising from the nature and functions of the various organs of the body, which in the brain present themselves as social instincts. These, as they become subjects of consciousness, are transformed into social ideas and eventuate in the science of sociology.

* I have in several instances, under very favourable conditions, been able to trace fibres from the optic tract to the centre, usually termed Imitation by phrenologists.

2. Specific sensory impressions, arising from the functions of vision and audition in the main, but partly from the activity of the peripheral sensory papillæ in general. These, as they become subjects of consciousness, are transformed into ideas of the beautiful, and eventuate in all the various departments of artistic and imaginative creation. Thus, when an external object is painted by the action of light, and through the convex lens of the eye, upon the sensitive surface of the retina, it is first transferred as a pictorial nervous impression to the optic ganglia (quadrigeminal bodies), which are parts of the ascending excitor axis, whence it is transferred to appropriate excitor centres in the middle region of the cortex of the brain. So with the action of sonorous bodies.

3. Impressions arising from the nature of life itself, as an inherent activity having its centre in the great excitor axis of the nervous system. These, in their nature unanalyzable, until the nature of life itself shall be known, presents themselves, in so far as they become subjects of consciousness, as the transcendental intuitions of religious faith, and lie at the basis of those fundamental religious conceptions that have been demonstrated to underlie all the known historical forms of religion, as well as those rapt reveries of inspiration and prophecy, of which the religious literature of the world mainly consists. I should prefer, therefore, to group the Veneration, Hope, and Spirituality of phrenology into one centre or set of centres, the activity or activities of which should be designated as religious faith, and regarded as resting upon impressions arising from the nature of life.

I pass over all those observational evidences that phrenologists have amassed as to the primary fact that an exceeding development of the coronal region of the brain is invariably accompanied with exceeding activity of the religious emotions, and that large supero-lateral development always exhibits, as its exponent, a marked imaginative activity. This aspect of the subject is one that the general reader may investigate for himself, the materials being both abundant and accessible. My aim has been to offer a reconciliation between science and religion from the standpoint of phrenology, in the first place, but, in the second place, to show that both phrenology and religion have their basis in facts of structures and in the very nature of life. That Gall and Spurzheim placed so little stress on these special facts of structure is mainly due to the fact that the fundamental distinction between the two species of nervous tissue, the cineritious and the fibrous, had not then been demonstrated, and that, therefore, to unravel the fibrous structure of the nervous system was more important

in relation to those problems they sought to solve. I have, accordingly, with a few necessary exceptions, stated only such facts of modern investigation as are in the nature of an appendix to the works of those celebrated enquirers, drawing my materials indiscriminately from my own experiments and dissections, and from the ascertained data of other and more eminent investigators. This general rule also obtains as to the

DISTRIBUTION OF CINERITIOUS TISSUE,

and may, possibly, throw some light on the laws of nervous activity, namely, that when disposed in laminæ its excitor properties approximate more nearly to what would be termed intelligent action than when disposed in proximately globular masses. Examples of the former occur in the corpora striata, in the pons Varolii, in the corpora fimbriata of the olfactory bodies (which directly continue the crescents of the spinal column), in the cerebral and cerebellar crura, and in the convoluted cortex of the cerebrum and the laminated cortex of the cerebellum, as well as at other points in the encephalon. Examples of the latter are exhibited in the ganglia of animal life. But as yet it would be unscientific to lay any special emphasis on this fact, as throwing light on the special functions of special departments of the nervous system, and it can only be affirmed, in a very general way, that elsewhere than in the convolutions the excitor tissue makes its nearest approximations to consciousness, when arranged in laminated structure, and that its extension into surfaces is in some unknown way essential to the manifestation of intelligence. Lastly, in dismissing the structural aspects of the subject, the reader must not forget that, although the excitor axis that has now been traced from the inferior extremity of the spinal column, through the medulla oblongata and mesocephalic region, to the coronal and posterior convolutions, constitutes the great central sensory tract, it is not uniquely sensory. On the other hand, from its inferior to its superior extremity it is also the great centre of instinctive movements, as when a frog swims after the removal of the anterior brain, or a man in cerebral epilepsy executes actions contingent on sensory impression without the consciousness of doing so. In somnambulism, again, in which there is a suspension of consciousness, extraordinary manifestations of intelligence are frequently exhibited, as when a clergyman prepares a sermon in the unconsciousness of such an attack, or a man, not professionally a musician, who could not for his life have executed the task in full possession of his faculties, composes a piece of music for the flute in an interval of unconsciousness. I have recently

inspected a striking spiritual landscape painted by a young man subject to spontaneous trances, who exhibits no traces of artistic talent in his normal state.*

FURTHER EVIDENCES.

I am verging now upon an important class of facts that curiously support the doctrines of phrenology, and are germane to the special question under consideration. If the reader will refer to a phrenological text-book, he will observe that the most prominent group of centres appertaining to the anterior lobes consists of Causality, Time, Locality, and Memory, which may be regarded as fundamental forms of consciousness; Comparison being merely a perception of likeness and difference, and the rest merely accessory perceptions; while, on the other hand, every act of conscious thinking involves the primary forms of cause and effect, time and space, and memory—that is to say, the recollection of phenomena or perceptions in the order of their sequence. To the ordinary mind it seems to border upon the absurd to assume that time and space are not real things, but, on the other hand, mere forms of thought, inseparable from the activity of the anterior lobes of the brain, but very frequently annulled in instances of morbid function, generally absent in settled insanity, and always so in that species of trance in which there is suspension of the activity of the anterior convolutions. As Schopenhauer, the profoundest of all the inductive psychologists that modern Germany has produced, very pertinently remarks: "The consciousness of the ideality of time lies at the foundation of the ever-existing notion of eternity, and only want of penetration on the part of the

* It ought to be added in estimating the important part that the organic impressions play in this department of psychology that the sympathetic nerve, consisting of a series of special ganglia presiding over the functions of secretion, nutrition, and growth, is now experimentally known to propagate its influence from the body to the brain, and thus to constitute a constant reporter to that organ of the special states of the vascular and secretive systems. This is properly, no doubt, the main source of what I have termed organic impressions, especially as relates to the lower and more vegetal processes of human life. It is in part, also, the source of those inexplicable impressions as to impending disorders of special organs that transcendental physiologists denominate organic prevision. In man this function of the sympathetic system seldom reveals itself tangibly and consciously; but in the inferior animals its development may often be observed as a peculiar species of intelligence connected with the preservation of life. This is generally termed animal instinct, but it is of a kind differing materially from that which has its origin in the cerebro-spinal axis, as any patient observer of the habits of animals may readily assure himself. The experiments upon which this view of the sympathetic nerve is based, may be easily verified by connecting the electrometer with a propagating filament near the cranium of an animal—a dog under the influence of an anaesthetic is most convenient for the purpose—and irritating the nearest sympathetic ganglion beneath.

wholly incompetent has allowed modern thinkers to explain the idea of eternity as an endless time." As pertaining to psychology, time is that form of thinking by virtue of which what is taken to be future appears to have no existence at all, this allusion disappearing moment by moment, as the future is absorbed into the present. In many dreams, and notably in those that partake of prevision, in clairvoyance, in somnambulism, in trances, and in second sight, this illusion is not present, and the future presents itself as existing. The ideality of space is proved by the same class of facts, in which, in a similar manner, the distant presents itself as present. In the course of an examination of numerous cases in which these phenomena were involved, I have observed this law to be constant in all the varied attitudes they assume, namely, the future presents itself as actually present to the clairvoyant perception, not as something about to be present. The distant, in like manner, presents itself as at hand. This law is important as showing that time and space are wholly absent in the higher aspects of the trance state, and are consequently forms of consciousness appertaining to the anterior lobes, but disappearing when their action is suspended, and the coronal region of the brain and the excitor axis are in full and perhaps more than normal activity. The reader who is curious to verify this law of psychology will find ample materials in Kieser's pains-taking collection of the facts of animal magnetism, particularly in Vol. VIII.* Now, time and space, as forms of thinking, are the special *agenda* operating to produce the intellectual notion of cause and effect, since cause and effect imply succession in time and contiguity in space. Again, memory is rooted in them, since it implies the succession of phenomena in time. So that the whole intellectual group may be said to be derivative from two fundamental forms of consciousness contingent upon normal function of the anterior convolutions; and here, as in many other points, phrenology reinforces the transcendental idealism of religion, and gives structural and psychological basis to its most mystic conceptions.

The point is that our intellectual perception is not a recognition of things as they are in themselves, but only as they appear, and that, as is abundantly demonstrated by the somnambulistic class of facts, our lives are all essentially

* The reader may find a somewhat extensive collection of phenomena of this class in the "Library of Mesmerism," Dr. Haddock's description of the case of Emma L. being specially minute and scientific in its tenor. Dr. Carpenter mentions a few cases in his "Mental Physiology," but is not at all minute in his details, and Dr. Maudsley has a particular discussion of the case of Swedenborg; but Kieser's collection is far the most exhaustive known to modern science.

imbedded in a transcendental being that knows neither time nor space. Thus, as regards its etiology, the conflict between science and religion is a conflict between certain forms of thought pertaining to the anterior, and certain transcendental intuitions of life and being pertaining to the superior lobes ; and if the period shall ever come, through long ages of culture, when the whole brain becomes conscious of itself, then, on the one hand, man will know himself as intellectually cognizing things according to certain forms of thought, and as spiritually cognizing them as all imbedded in one being. That is to say, reason and religion must find their ultimate reconciliation and harmony in that higher consciousness toward which human progress steadily tends. But, inquires the inductive thinker, if this eternity is really present to our souls, and if time and space are actually mere dreams of the understanding, how is it that the latter enter universally into the structure of languages ? On physiological principles, simply because Language is a faculty having its centre in the anterior lobes and belonging to the life of relation, not to the absolute life in which our deeper being participates, and because our perception of the Infinite is an interior spiritual perception that enters into the life of relation only through the understanding. Fundamentally, it is a perception of the being in which our lives are all imbedded, and in the nature of which our souls participate.

IT is a great loss of positive pleasure for children to outgrow too soon their childish feelings. Keep them at their simple playthings as long as you can. Their enjoyment of these has a relish which nothing else can supply to those years. It is like the keenness of their appetites for a winter apple, skin and all. Never laugh at them for amusing themselves an hour and a half a day with a string, or a paper doll, but laugh with them. If your boy jumps into a snow-drift up to his chin, the glow on his cheek is only a faint flush to that of his rollicking spirit ; and the blood tingling to his finger-tips will keep the chill out of his bones and soul alike.

A FRENCH lady recently died at the advanced age of ninety. Her will contained this provision : "I leave to my physician, whose enlightened care and wise prescriptions have made me live so long, all that is contained in the old oaken chest in my boudoir. The key of the chest will be found under the mattress of my bed." The heirs were much disturbed, for they foresaw a material diminution of their share of the property. The fortunate and expectant physician at length arrived. The notary delivered to him the key of the chest. It was opened, and found to contain solely all the drugs and potions, still intact, which the worthy physician had given his patient for twenty years back.

PHRENOLOGY IN THE SCHOOLROOM.*

IT was with considerable diffidence that I accepted your invitation to address you this afternoon. Still, you chose for me a subject so highly important that I felt I should betray the interests of a science I value most highly were I not willing to attempt to serve you.

Authors of works on education agree that children differ in capacity and disposition, and that this difference should be taken into consideration in their management ; yet few of them seem to have the slightest notion of any method which can teach them how to discover these capacities, and fewer still would admit that phrenology could be of any service in realising this desirable object. They ask you to teach according to the development or powers of your pupils and yet fail to help you to judge of that development.

For example, James Currie, Principal of the Church of Scotland Training College, Edinburgh, in his "Common School Education," says : "We must keep in view individual character. Pupils differ amongst themselves not only in respect of their mental gifts but also in the manner in which they apply these gifts. The teacher's object must be, not simply to call forth mere exhibitions of capacity for which nature has given special talent, but to educate the powers which are comparatively weak up to a state in which the whole mind may act harmoniously. At the same time education will never alter the complexion of the pupil's mind. Differences in this power and in that are as durable as they are inevitable." "The teacher should recognise nature's differences." He goes on : "There are differences in moral character and capacity equally as in intellectual. From natural disposition or previous circumstances the teacher will find some comparatively weak in virtues to which others seem drawn by innate affinity or strongly-acquired habit." He also goes on to say, that amongst a number of children, "one is bold, another hesitating and timid, one is sanguine or forward, another shrinking, one is quick and almost violent, another patient and enduring. These various tempers can never be obliterated or made to pass into each other ;" and "the sum of what has been said is that the teacher should form to himself a distinct estimate of each pupil ; so that the mental and moral character of each may be recognised by him as a distinct reality, made up of so many qualities, good and bad, and that when

* An address delivered before the Sheffield Certificated Teachers Association, May 10th, 1884, by Mr. J. Webb.

he has formed an estimate of tendencies and requirements, he should come to an equally clear understanding with himself as to the measures which he should adopt to meet them. He cannot otherwise have any reasonable prospect of confirming what is good in them, or of remedying what is bad ; he must in fact work in the dark and by chance."

You have heard what this teacher of teachers has to say, and he is but a sample of lecturers on education who tell you what ought to be done and leave you there. They don't tell you how to do it, because they cannot. Currie cannot carry out his own advice without the aid of phrenology ; and as he does not mention this most valuable of all knowledge, I take it he refuses its aid. Without its aid, I ask you, do you believe he can form a "distinct estimate" of his pupils? Certainly not ; at any rate not a reliable estimate. He says we shall find some children "comparatively weak in virtues." Yes, *very* "comparatively weak." He says some "are almost violent." Yes, some are *exceedingly* "almost violent." How hazy such expressions are ! The fact is, some are very gentle, some very violent, and all the others more or less gentle or violent. Some are very frank, some very sly (and these I defy any one not a phrenologist to give a distinct estimate of) (and the phrenologist *can* easily give such an estimate of them). There are two classes of people in the world—those in jails and those outside. Poor things ! we might safely set free nine-tenths of those in jail and they would easily be "run in" again whenever wanted. They haven't the ability to keep out. The difficulty is with those outside who have the ability to keep out. The phrenologist knows them. He meets them not seldom. Of course all that are not in jail do not deserve to be in ; but rest assured there are far worse men walking free than are many of the partial imbeciles who are being lodged and boarded at the public expense. Some years ago there was a great swindle by detectives, &c. I told a class of young persons under my instruction at the time that two of them would get into jail if guilty—and the probabilities were that they were—and that another of them, Inspector C, would not be convicted, however guilty. Why ? Because the two were not strong in the ability that wrong-doers ought to possess if they wish to be safe against discovery—the organ of Secretiveness was not good enough. They tried their best to be sly but failed. Inspector C, bullet-headed and cunning, was *not* convicted. This is no theory : it is a matter of daily observation and experiment.

Currie says we have no occasion to stimulate children's appetites, for (he says) "natural instinct secures that." "The

business of education is to regulate them." I suppose he means "to restrain them;" but that depends on the children, for many children require their appetites to be stimulated. The fact is, without a knowledge of phrenology a teacher does not know what to stimulate and what to restrain. People don't know themselves if they have not consulted a phrenologist of experience, and less do they know one another: and less still do they know young children. The mere metaphysicians may found schools of thought, but facts are unknown to them. They work out their arguments and theories without the aid of the two grand supports of all sound knowledge—experiment and observation.

Observation and experiment are the necessary guides of the phrenologist. Gall and his followers have offered us their contributions. We examine them and find they answer to our tests.

Had we time to discuss it, the subject of the teacher in the schoolroom: his management and selection, would be a most important matter for our thoughts: but we have not, and I leave it with the remark, that were the principals of colleges, and inspectors, to know a tenth part of the subject that they ought to know, and might soon know, they would be able to do what they cannot now do—form a "distinct estimate," far more correct than they now can hope to do, of the mental ability and suitability for their work and moral character of those they teach and examine. I may here say that Mr. Jolly, H.M. Inspector in Scotland is an exception. He is an earnest supporter of the views I advance. His "Digest of Combe's Writings on Education," published by MacMillan, should be in the library of every teacher. The teacher being often carelessly selected, he gets over managed. We are here to-day to speak of the training and management of children.

It is asserted by phrenology that temperament, size of brain, and particularly the relative size of the organs of the brain, and what is termed organic quality, depending on texture, health, &c., are the prime factors that go to make up the mental and moral characteristics of an individual. The phrenologist takes in at a glance much more than a non-phrenologist can possibly learn after a long acquaintance. If a teacher, he readily sees the material at his disposal. In a school on the north side of Sheffield he would see the large amount of steel-like human nature that characterises the children of the iron-workers living there. He knows the firm, patient, persevering, and powerful teacher required to manage them, and believes that managers and inspectors ought to be pleased at seeing habits of order, gentleness, and obedience

fostered there. Nowadays teachers have to obtain the semblance of gentleness and obedience, sufficient to hold out during the visits of the inspector; for their greatest attention must be given to the load of instruction they can compel their pupils to carry. The time will come when the points to be considered will include the right training of the moral and intellectual faculties. At present children get prizes for the mere repetition of the Commandments, the particulars of the journeys of the Israelites in the wilderness, the weights and measures—that is in school; but out of school other faculties, compelled to remain inactive in school, find scope for their activity in perforating their neighbours' windows or chimney-pots. Teachers and parents should work hand in hand, and then we should find children occupied in the improvement of their whole nature. Parents should know what is going on at school, and teachers should know what is going on at home: which children have garden-plots, tool-chests, bee-hives, violins, water-colours, fishing-rods, &c. By this means a teacher may aid his pupils in their right development, and he will secure an obedience and respect less rigid, but far more satisfactory, than such as gains the praise of H.M. inspectors on examination day. Such teachers give their pupils an interest in learning, a feeling of justice to their teachers and neighbours, and ease and manliness of demeanour. Of course these traits will be different in each child; but a right education will do immense good to all. A child, for example, naturally conceited, will be taught that others have rights as well as himself; whilst the humble boy will be taught the necessity of self-regard and self-assurance. At present teachers give the same advice to all, with the most unhappy results. I could give numerous instances, but will confine myself to one example:

A teacher gives a lesson on kindness to one another, and charity to the unfortunate. He suggests that each contribute to a fund to benefit orphan children, and assures them that the All-seeing God will reward them according to their gifts. Two children give a penny each. One of those children has a father ill in bed, and he says to himself, "What would become of me were my father to die? I am saving this penny to buy him an orange, but I can work for another, and will give this one to the orphans." He gives it. The other boy has several other pennies, but parts with one only. "Haven't I subscribed like the others? Haven't I earned the respect of my teacher and the approval of heaven?" But his gift costs him nothing. His father is well-to-do, and he gets his pence without difficulty. He hears his clergyman praise the

"cheerful-giver," who will be rewarded a hundredfold, and he feels prouder than he did, and more selfish. The poorer boy upbraids himself for giving so little, and feels humbler than he did. Here we have a case where an apparent lesson on charity increased the selfishness of the selfish and the meekness of the humble. Whereas such lessons should, if given from a phrenological standpoint, humble the proud and encourage the meek. The fact is, teachers cannot find out (as Currie thinks) the character of his pupils from ordinary observation in school. For here they are on their good behaviour—"on their compulsory good manners"—and their characteristic tendencies are not learned by ordinary observation. Much of the instruction given them, as will be seen by the above illustration, may be prejudicial to their future efficiency and moral good. I have no hesitation in saying that the seeds of unsoundness of mind may be readily sown by a teacher who is unable to distinguish the cautious and conscientious from the careless and indifferent; whereas an early knowledge of the character, with judicious treatment, would render the life of the timid but honest boy one of happiness, and his future life creditable to his instructors and honourable to himself.

I find that exercises in composition are wonderfully helpful in enlisting the interest of pupils in their school instruction, and the more carefully such exercises are examined, the more carefully are they prepared. Children may be readily benefited by such lessons: and here I would state my objection to place-taking and rewards for mental ability, and punishments for the want of it. Rarely, or never, pit children against each other as individuals—as classes the matter is different. Deal with a child according to himself. Don't put the Shetland pony to race with the Arab steed. Children are very readily discouraged, and teachers should rather encourage them. Very often a boy wins a prize, in competition, with no effort on his part. To reward him often feeds his conceit and selfishness. I tell my boys to beat themselves. Progress, steady, persevering progress, may be rewarded safely. And, on the other hand, much less would I punish a child for want of ability. Rivalry and place-taking are demoralizing the whole nation.

But we must not stop in Attercliffe. We come to Mill-sands and Harvest Lane, the Crofts, and Woodside. In these schools we find children on whose dress and face are written poverty, dirt, and sin—not that poverty produces sin necessarily, but very often sin is the parent of poverty. Here the teachers should be able to pity and love. Generous persons

will pity, and therefore the teachers of such schools should be generous; and the managers should be proud to get them, and having got them, should see that they are as liberally paid as the teachers of more favourably situated schools; nay, more, their homes and personal comforts should be defended from that injury they must suffer from constant generosity and love for the unfortunate children of erring parents.

Going into a school in Walkley or Broomhill it will be found that a thoroughly intelligent and well-taught teacher is required to promote the love of learning that may be readily produced in the minds of the children of such districts. I know that teachers are not often adapted to their districts; and what a sad thing it is to see a man in whose mind the chief thought is: "How may I best school my assistants and pupils into satisfying the requirement of Her Majesty's, the Diocesan, and the School-Board inspectors? How shall I conduct my school so as to secure flattering 'reports'?"

But I will not dwell on our infirmities farther than duty compels me; and only hope that the number of such teachers will decrease, and I wish I could do more than hope. When phrenology is better known, then I may say that there will be much to help to strengthen my hope.

It is not generally known that each school gets a fair share of the clever and dull, the generous and selfish, the frank and the sly.

The phrenologist sees the temperament of the children, the slow and lazy, the changeable and the persevering. The temperament shows itself at a glance, as does the general character and ability of the child by the general disposition of the brain. He sees where the bulk of the brain is located: whether high above the ears, as in Sir W. Scott, Rev. T. Binney, Professor Owen, Cardinal Manning, showing the religious and philanthropic; whether in front of the ear also, as in Professor Owen and Jeremy Bentham, proving immense intellectual power; or small, like Lord Chelmsford, whose intellect would not warrant a phrenologist in placing him at the head of an army; whether large in the animal propensities, as was the case with Cardinal Wiseman, Palmer of Rugeley; whether frank and open or sly and cunning. Palmer was *very* cunning, but not sufficiently so to cope with his immense selfishness and sensuality; whether coarse, like Palmer, or refined, like Wordsworth, Cardinal Manning, Mr. Bass (just deceased); whether particularly strong in reasoning power, as in Galileo; or in perception, as in Bentham and Newton; or in both reason and perception, as in Professor Owen. Wordsworth had immense reflective power, President Garfield much less, and

Gambetta still less. Large reflectives tend to dreaming, the want of it to practical every day work. I will not continue this into further detail further than to call your attention to the sly and frank. This is readily observed by the general fulness at the side of the head above the ears. The sly are bullet-headed ; the frank and open have narrow heads from side to side. Teachers may readily detect the conceited and humble, the former with much higher crown than the latter. Instance Rev. Rowland Hill, the Marquis of Hartington, with large Self-Esteem. Many otherwise humble persons have a strong desire for the approval of others, and are often deemed conceited when they might rather be considered as vain, like Plimsoll. With fair Benevolence, like Plimsoll, then, we get the philanthropist. Peabody had very large Acquisitiveness, and could work at least seven days in the week : having got, his Benevolence could induce him to give. Had his Benevolence been much larger he would never have been rich : he would have given as he got. Jemmy Wood, the Gloucester banker, who had large Acquisitiveness and small Benevolence, would get a cheap ride in a funeral 'bus to save his cab fare, should one chance to be going his way. Teachers may readily study the signs of character by getting right views of a number of persons and examining their heads.

Perhaps the organs most valuable to a teacher are those of "Form" and "Love of Approbation." The organ of Form is most valuable as regards intellectual progress, and Love of Approval in a child's management. Generally width between the eyes may be taken as a measure of the size of Form, and width of the head at the crown (not the height of the crown only) may be taken as a measure of the desire to win esteem. You can see it any moment in school, as you can any other organ. Find a boy who has made some attempt at improvement. Say a word of praise to him. His head at once falls aside. Praise delights him. He returns to his work with a stronger desire to shew his teacher that he can do better still.

You have an assistant. He can work if he likes. He doesn't like. You have scolded him for his faults, and he is depressed. Possibly your words have been somewhat unjust. At any rate he thinks so. Perhaps you have compared his with another class, and assessed it as backward. You say his work is "fair" and his neighbour's class is "good." He is disgusted and loses heart. The phrenologist has a "better way." He sees the class is weak and that the teacher is not particularly strong. He looks into his room, and observes some poor work, and he sees some good work. He praises the good and overlooks the bad. He is pleased with the good

and the teacher sees it. The child also sees it. Both are complimented and both are glad. The angel of charity and the organ giving Love of Approval produce in child and teacher a determination that next time the master comes into their room he shall have something to look at. He does go again, and as he enters a look of pleasure glows on the countenances of the whole class. Watch how the heads of both teacher and pupils drop aside—their work will be approved—they feel glad. You give them an extra half hour's play as a reward. The time is not lost. Errors in arithmetic and spelling become fewer, because the children are being interested in their work, and when they are, punishments are unknown and lessons are pleasant. This is no theory. It is experience. Praise a boy for good work (and the case is doubly as certain in the case of girls) and his head droops to the side: he is glad he is appreciated. You can see this any day. Tell a young lady that her dress and bonnet are beautiful. Her head droops to the side. All the starch is washed out of her neck. With large Self-Esteem also that neck would become a swan. Let her hear the approval of her friend, and let that friend feel her approval also. Their necks might be oiled: they bend aside like willows in a gentle breeze.

Children will work and bear far more than those teachers think who never oil the wheels of the car of learning. When Love of Approval is helped with Conscientiousness and Dignity it is a most graceful and pleasing organ. "Code grinders," men who care only for their "screw," and "grant," and "percentage," may know nothing of this; they may pose as successful teachers, but are they? It is a pleasure to think they are not numerous—and they miss a pleasure that good teachers feel—they miss the inward satisfaction of doing good. They have satisfaction—the pleasure they seek, their examinations in Scripture and literature are well done, and they get their pay. The examinations of the true teacher may be less showy, but the work done is substantial and useful. I once met a young teacher whose master had never said a kind word to him. He died during his apprenticeship. His death must have been a relief to him. Commendation is life, and miserable is the man who sees nothing in another to commend. There are such.

I once heard of a girl who got praise for extinguishing a fire. She never got praised again. She had tasted its sweets and felt unhappy. She must do something to praise. What could she do? She could set a house on fire, and then exert herself to put it out, and she did. Poor girl! I sympathise with her.

Of course, children should never be praised for doing wrong —*e.g.*, copying at an examination. Children have been helped to “pass,” and have received prizes for passing. The injury thus done I will not stop to describe. Don’t call a *wicked* thing merely “shameful,” or “ridiculous.” Some children are fond of the ridiculous, and are pleased if anything they do attracts your attention and excites your Humour. This organ of Humour is easy to detect, as easy as blue eyes, or a Roman nose. With large Wit and Love of Approbation a boy will be constantly attracting attention, very often to the annoyance of his teacher, who determines to “take it out of him.” Of course the teacher cannot take it out, and often comes off second best in the conflict. The fact is, the boy tries to please the teacher, and the teacher won’t be pleased. The conceited boy, on the contrary, knowing that he is made up of better stuff than others are, knowing (as he thinks) that he is elaborated out of better material than others, feels he is refined, a “gentleman born,” hall-marked, first quality. He doesn’t care whether people admire him or otherwise. He doesn’t try to gain their esteem. He ought to have it, without any effort on his part. I tell the humble boy, that self-regard is the way to success. I tell the conceited boy, that others have rights as well as himself. The two require totally different treatment. Teachers generally tell them both to be dignified on one occasion, and humble on another—the result being that the conceit of one is strengthened, and the humility of the other—just the opposite of what ought to be done—is strengthened also. Not seldom a boy with large Firmness, and Self-Esteem submits to a severe flogging, even when in the right, sooner than “give in” to his master, who has mistaken his conduct. Such a boy deserves an opportunity for explanation. He doesn’t get it, and so he prefers to be “cut in two.” Such a boy, with a weak master, often gets his way. The master is afraid of him, and makes up by pouncing on the meek and fearful. I should not name this, but am bound to do so for the sake of phrenology, which, if well understood by teachers, inspectors, and training college authorities, would prevent the engagement of such persons.

The organ of Imitation deserves full and special notice; but time does not permit us to give it its deserts. I have named the organ of Wit. This I see very active in school, in the playground, at church, at home.

There was a time when I did not understand its activity, and I resented it. Now I enjoy its exhibition. It is not to be repressed, and the teacher who mistakes it for misbehaviour and vice is to be pitied. You walk through Chichester Church-

yard, and read on a gravestone: "Here lies the body of John, the surviving son of John and Mary Thompson." Isn't a boy to laugh at that? If the boy have Wit well developed he will do so, whether it be "wrong" on his part or no. With small Wit he will read and pass on. Again, he is reading the rules of a funeral or burial society. He reads, "Whereas, many persons find it difficult to bury themselves, &c." He laughs, and his teacher with small Humour himself, is annoyed. Why, this afternoon, one of your company in speaking from this platform said: "Children should be taught to run before they walk," and we smiled. In school teachers make similar assertions sometimes. Are their pupils to be grave? Some of them *will* enjoy your blunder, and let you see they enjoy it. What is the use of the organ of Wit if it cannot be enjoyed?

You read your newspaper, and in a report of an after-dinner address, you find that a certain officer said, in giving a toast: "The 69th, equal to none." You read, "laughter" was excited by the toast, and that the gallant officer returned to the attack with, "The glorious 69th, the last to enter the field, and the first to leave it."

Education may develop and "draw out" the faculties, but it cannot originate them. It can to a certain extent strengthen the weak faculties, and the intelligent teacher takes advantage of this, and does his best to benefit his pupil; but the judicious teacher does more. He is careful to learn what are the predominant faculties, moral and intellectual; and by this knowledge he points out the field where the talents may most usefully and profitably be employed, and therefore employed with far less irksomeness and friction than is employed where a groove is made for the child without reference to his abilities. Handel's father did his best to prevent his son from being a musician. Hundreds of others have made similar mistakes. Handel stole away to his garret, and would follow his natural gifts. On the other hand, the father of Sir William Herschel took great pains to make his son an accomplished musician, and though William was fond of music and made great progress therein, yet music was not *his* special subject, and now he is only known as a great astronomer.

What a wrong is done to a child by compelling him to study the dead languages, when he is rich in the convolutions of the brain that adapt him to mechanics, art, or physical science! Very often an *aversion to study* of any kind is produced in a child when his studies are made irksome or disagreeable. What a blessing it is that there is a way of

obtaining a knowledge, even on the first acquaintance, of the character and ability of anyone!

In conclusion, I urge you to deal with your pupils as they deserve to be dealt with. Encourage them where they are weak; don't set up any arbitrary standard, but deal with each according to himself. Don't therefore pit them against each other, but rather show the virtue there is in beating oneself; and rest assured if the children *try* to progress, as they must do, to beat themselves, you will have much to encourage you in the long run; the result of your work in this case will exceed your expectation, and the expectations of the inspector, the parent, and the child himself. I may ask you not to overlook the fact that the expectations of the child himself, when rightly taught, is more important than the expectations of all others. Set the boy in the right path, give him a desire to pursue it; you then accomplish a work that none of us can measure the importance of, and give yourselves a pleasure with which all other pleasures sink into insignificance.

THE SCIENTIFIC VIEW OF THE DRINK QUESTION.

BY MANUEL M. TERRERO, *Assoc., R.S.M.*

I FEAR that many who read the following pages may consider it presumption on my part to designate by the above title what to them may appear to be nothing more nor less than a strong argument in favour of what is practically the so-called "Total Abstinence" view. In spite of this, however, those who watch closely the direction in which medical science, using this expression in its wider sense, now tends as regards this question, will see that the view herein advocated is rapidly becoming the only possible scientific solution of the important problem, as to the natural and proper position of alcohol in its relation to ourselves.

To define shortly the position I take up. It being clearly proved that alcohol is a poison, is not a food, does not supply warmth to the body, works infinite mischief both moral and physical, but may yet in cases be a most valuable medicine, the conclusion is inevitable that its proper place is upon the shelf of the medical man or of the druggist, and that its habitual use as a luxury, whether conveniently styled as a "stimulant" or to merely gratify the palate, is utterly unjustifiable.

No one, however, can be more aware than I am myself of the prejudice and opposition against which those who take this view have still to strive. Arrayed against us there stand

the inherited tastes, ingrained opinions, and social customs of many generations; and were it not that the forces of science are being now gradually though surely marshalled on our side, the victory would seem well-nigh hopeless. The names, however, of such men as Sir William Gull, Drs. Carpenter, Wilks, Miller, Murchison, Kidd, Wilson, and Richardson, of the French observers, Lallemand, Perrin, and Duroy, and of many others, form allies whose powerful co-operation is a guarantee of ultimate success.

It may be well to pause here in order to give for the benefit of the non-scientific reader a short account of the chemistry of alcohol. In chemistry there are many kinds of alcohols known, but the only kind with which we are here concerned, and in which consists the intoxicating principle of wines, beer, and spirits, is what is known to chemists as ethylic alcohol, commonly as "alcohol." When pure this is a perfectly colourless liquid, of lower specific gravity than water, of peculiar taste and odour, and of a very inflammable nature. Its chemical formula is C_2H_6O , which indicates that in ultimate composition any given volume consists of 2 volumes of carbon, 6 of hydrogen, and 1 of oxygen, all three elements being supposed in the gaseous state; or that 46 parts by weight contain 24 of carbon, 6 of hydrogen, and 16 of oxygen. When allowed to absorb oxygen it becomes converted into acetic acid or vinegar, and it unites with chlorine gas to form choral, which, mixed with water, forms the well-known soporific, chloral-hydrate. Alcohol is produced during the fermentation of any liquid which contains sugar in solution, and may then be obtained pure by distillation.

To proceed now to our argument. That alcohol is a poison is, I believe, denied by no great authority on the subject, even among those who advocate its habitual use. It is very difficult to obtain a satisfactory definition of the word "poison," but Webster's seems to me to be the least open to objection. He defines "poison," as "any substance which, when introduced into the animal organism, is capable of producing a morbid, noxious, or deadly effect upon it." But, be this definition satisfactory or not, it is absolutely impossible to frame one which shall not include alcohol as among the poisons, equally with such substances as prussic acid, opium, or arsenic. This is the opinion of Sir William Gull among many others.

The limited space at my disposal does not permit of my entering at any length into this question, but Dr. Percy's experiment affords proof that this substance is not only a poison, but in cases a most rapid and deadly one. He injected two and a half ounces of alcohol into the stomach of a dog,

which dropped dead almost instantaneously, and on immediately removing the brain he extracted from it a considerable quantity of spirit, thus proving its deleterious action upon this organ.

If the alcohol be consumed more slowly and in sufficient quantity, what we call a "drunken fit" is the result. The nervous system becomes paralyzed, the heart and lungs act imperfectly, the man becomes gradually choked, and death is often the result. Had these same effects been produced by any other substance, we should say that the man had been "poisoned"; as it is, we merely remark, either that he has been "very drunk," or has "drunk himself to death," according as the result has been fatal or not—a good example of what the process of verbal quibbling can effect.

Of course it must be acknowledged that the effects will be less and less deadly in proportion to the quantity taken, but this is a fact which will equally apply to the most deadly of universally recognized poisons.

That alcohol is not *food*, in any sense of the word, is, if possible, more evident than that it is a poison. I suppose it will be generally agreed that no substance can claim the name of "food," unless it either supplies matter out of which the various tissues of the body can be rebuilt as they waste away, or unless it affords material to keep up the animal heat.

I hope presently to show that it does not supply warmth to the body, and in the meantime the one fact of the absence of nitrogen from its composition is alone sufficient to take from it any claim to being a structure-building food.

Besides this, however, certain recent experiments would seem to show that alcohol is almost entirely eliminated from the system in the form in which it is taken into it. If this be the case, it requires no great amount of physiological knowledge to make us understand how a substance which behaves in this manner can neither nourish nor make up for the waste of the body. But granting that, as some observers maintain, it is decomposed to any great extent within the body, the substances produced by its decomposition are not such as to afford the slightest amount of nourishment.

What does ale, of which so many talk as though they believed it to possess surpassing powers of nourishment, show us upon analysis? A 36-gallon cask weighs 360 lbs. Of this 320 lbs. are water, 20 lbs. alcohol, and 20 lbs. solid material, which certainly no one who saw it would care even to taste.*

* According to Liebig, if a man drink from eight to ten quarts of "the best Bavarian beer" daily for a year, he would obtain therefrom no more nourishment than is contained in one five-pound loaf of bread.

During the process of "training," which consists in putting the body into such condition that the greatest possible power of endurance may be induced, alcoholic liquors are almost always entirely forbidden.

In our prisons, where the men have to be kept at the same time hard at work and in good health, this substance is never allowed except by order of the doctor. During the late Egyptian war stimulants were, after landing from the ships, strictly forbidden to our soldiers, except under medical direction. Dr. Livingston and Mr. Cobden, who, each in his own particular line underwent exertions as great as any of which the human frame is capable, have both borne testimony to the benefit they derived from total abstinence.

If then alcohol be a legitimate food, and of so much sustaining power, as many suppose, why is it given up in all these cases, where the greatest amount of work has to be undergone with the least possible strain upon the system?

But for a long time many supposed, and among others the great German chemist, Liebig, that one of the true functions of alcohol was to supply material for the warmth of the body. This view has been shown to be entirely false, and later observers are generally agreed that alcohol, so far from supplying heat to the body, is really a cause of the abstraction and loss of warmth, thus lessening the power of enduring cold.

At first sight no view appears more false and absurd than this, and I own myself to have been somewhat sceptical when it was first presented to me. But an examination of the action of alcohol upon the system brings out the truth very clearly. We have all experienced the sensation of warmth which is felt after drinking a quantity of strong wine and spirits, and are naturally accustomed to attribute this to some power in the alcohol to supply heat to the body, whereas what really happens is that, though we may for a time experience the feeling of warmth, yet that feeling is obtained at the absolute loss of a large quantity of the vital heat. The spirit acts in two ways : by its action upon the nervous system and thence upon the heart ; it causes a quickening of the circulation and a consequent rise in the temperature of the body ; it also causes a relaxation of the fibres of the capillaries or minute blood-vessels over the surface of the body, resulting in their distension by the blood, which being therefore exposed to a larger surface of the external air, of necessity radiates its heat more freely, and causes a temporary rise of temperature. But a rise of temperature does not necessarily mean increase of heat. When we stir the fire to raise its temperature and make it flame, we but cause it to burn away more quickly.

than if left to itself, and in such wise is the action of alcohol upon the body; it only enables the internal heat to escape faster, and therefore leaves us less able to bear exposure to cold.

The heat of the body is maintained principally by the combustion in the lungs of the carbon and hydrogen supplied by the fatty substances which we consume as food, and later observers having shown that there is no combustion of alcohol in the lungs, it is impossible that it can have any perceptible effect in keeping up the supply of warmth to the body. Even according to Liebig, one pound of fat is equal to three pounds of whisky, and one shilling's worth of oil to twelve or fifteen shillings' worth of brandy as a heat generator; so that, even if his view of the heat-producing power of alcohol be right, which is more than doubtful, he shows that other substances have far greater heating powers.

That this view of the inability of alcohol to supply warmth to the body is the true one is borne out by independent evidence. The following extract is from Captain Burnaby's "Ride to Khiva," during which he had to experience exposure to excessive cold, sometimes of 60° of frost. Speaking of tea, he says: "This beverage becomes an absolute necessity when riding across the steppes in mid-winter, and is far superior in heat-giving properties to any wines or spirits. In fact, a traveller would succumb to the cold on the latter when the former will save his life."

One of the usual conditions imposed upon the men who are chosen for the crews of ships fitted out for Arctic voyages is that they shall be total abstainers.

The Russian authorities forbid its use in the army when the men are about to suffer exposure to extreme cold; and, according to Dr. Carpenter, "the Hudson's Bay Company have for many years entirely excluded spirits from the fur countries to the north, over which they have exclusive control."

The following experiment of Dr. Richardson, which I give in his own words, also bears out this view: "A warm-blooded animal insensibly asleep in the third stage of alcoholic narcotism was placed in a chamber, the air of which was reduced in temperature to ten degrees below freezing-point, together with another animal which had received no alcohol. I found both sleep under these circumstances, but the alcoholic sleeps to die, the other sleeps more deeply than is natural, and lives so long as the store of food it is charged with continues to support life. Within this bound it awakes, in a warmer air, uninjured, though the degree of cold be carried even lower, and be continued for a much longer time."

Possibly, however, the most convincing fact of all is that the fit of apoplexy may be distinguished from that of drunkenness by the difference in the animal temperature, the temperature of the body being in apoplexy above, whereas in drunkenness it is actually below the natural standard.

So much, then, for the heating power of alcohol.

As regards the mischief caused by this veritable curse of civilized nations, the evidence is so overwhelming that it is difficult to decide upon what examples to select, as best showing its evil effects.

It is one fruitful cause, either direct or indirect, of many terrible disorders, such as inflammation of the brain, apoplexy, congestion, insanity, epilepsy, and numerous diseases of the liver and kidneys. It is a common cause of that frequent and fatal disorder known as "Bright's disease;" and Dr. Christison has assured us that three-fourths to four-fifths of his cases occurred in drunkards. Dr. Murchison reminds us how Orientals do not suffer from gout, degeneration of tissue, and many disorders of the vital organs common among us, and which our habits of alcohol drinking are certainly quite competent to cause. It has been calculated that there are in England 700,000 habitual drunkards, and that of these 60,000 die every year from disorders induced by this baneful habit. Dr. Miller tells us that "of seventy male adults affected with cholera in an Edinburgh hospital in 1848, only seventeen, even according to their own account, had led tolerably temperate lives. And of 140 females attacked by the disease only forty-three were reputed sober." Dr. Davidson gives as his experience that out of 370 cases of fever the deaths among the intemperate amounted to one-third of the whole, among the temperate only to one-seventh; and Dr. Craigie states that out of thirty-one deaths from fever in his wards, only two occurred in temperate persons. In the Government returns regarding the mortality of troops in India, they are classed under the heads of abstinent, temperate, and intemperate, and the respective mortality is found to be as follows: 11 in the 1000 among the abstinent; 23 in the 1000 among the temperate; and 44 in the 1000 among the intemperate.

I think we may, as a general rule, trust business men to find out by practice and act upon the right view of a question, if their pecuniary interests be therein concerned, and this is evinced by the fact that insurance companies either decline altogether the lives of publicans or accept them only at a greatly increased premium, thus showing in the most practical manner their opinion of the harmful effects of alcohol. This reminds me of the case of an insurance office, mentioned by

Dr. Miller, which had two branches, one for abstinent the other for temperate men, the result being that in the abstinent section the bonus was just 19 per cent. more than in the general section.

The power of alcohol to cause either temporary or permanent insanity is well known to all of us. I have been told that one single visit to the padded room of the London Hospital, where those suffering from *delirium tremens* are confined, is amply sufficient to shake the faith of the most confirmed alcohol worshipper in his mistaken creed. As regards its relation to permanent insanity, we have the statement of a former Bishop of London, who has informed us that out of 1271 maniacs whose previous histories were investigated, 649 wrecked their reason by excessive drinking.

But the most terrible results of this list of evils have yet to be considered. Even supposing we grant that from the moral point of view it is allowable that, for the gratification of a mere animal desire, we may risk both our own health and reason, there can be no doubt that, to risk the entailment of the above terrible afflictions upon those who are to come after us, is among the most wicked and unjustifiable of deeds.

Yet this is the guilt of all who indulge in the fatal vice of drink. Many of the diseases I have mentioned are well known as being capable of transmission by inheritance, so that the wickedness of one individual may literally cause the "iniquity of the fathers" to be "visited upon the children, and upon the children's children," even "unto the third and fourth generations," entailing such results *in futuro* upon the innocent unborn, that even the most hardened sinner may turn with horror from the prospect of such a crime. To give one instance, Dr. Howe, in his report on idiocy to the legislature of Massachusetts, says: "The habits of the parents of 300 of the idiots were ascertained, and 145, or nearly-one-half, are reported as 'known to be habitual drunkards.'"

In the social world alcohol is equally a source from which many evils flow. But a short time since, a medical man who had had large experience among the workhouses of the metropolis, and who, though not himself a total abstainer, has taken great interest in this question, assured me that he had never known a teetotaler to apply for parish relief. In Edinburgh, out of 27,000 cases of pauperism, 20,000 were traceable to drunkenness, and in London it is estimated that two-thirds of our paupers owe their condition to the same terrible evil. This is no matter for wonder when we come to consider the amount of money which is squandered in drink, coupled with the unprofitable and unproductive nature of the trade to the

community at large. During four years, up to 1879, the amount spent in the United Kingdom upon intoxicating liquors amounted to £574,000,000, a sum within £18,000,000 of the total of our export trade with the whole world during three years! And judging from the number of workmen in proportion to the money value of the various liquors sent out at the large Caledonian Distillery in Edinburgh, the drink money spent in this country would, if more productively applied, employ nearly 2,000,000 instead of 250,000 of our population.

How true Mahomet's saying was, that "alcohol is a mother of sins," is rendered very evident by an examination of the causes of crime in this country. In Parkhurst prison it was calculated that 400 out of 500 juvenile prisoners were there confined as incidental results of parental debauchery. Judge Erskine, in 1844, at the Salisbury assizes, declared that 96 per cent. of all cases were caused by drink, and Judge Coleridge, at Oxford, went so far as to declare that he never knew a case brought before him which was not either directly or indirectly connected with intoxicating liquors; while Judge Patteson on one occasion spoke to the grand jury at Warwick the following words: "If it were not for this drinking, you and I should have nothing to do!"

I must here pause to give warning that to this list of evils it can be no satisfactory answer to say that it is altogether caused by immoderate indulgence, and that it affords no argument against the moderate use of alcoholic liquors. In the first place, I have shown that even so-called "moderate" drinking works a certain amount of evil; and in the second place, so long as alcohol in any form is permitted as a luxury, so long will immoderate indulgence of necessity maintain a certain hold among us. The actual step from the one to the other is imperceptible; it is absurd to suppose that men commence by deliberately becoming drunkards; even the most hopelessly besotted wretches were at one time moderate drinkers, and fell gradually and almost unknowingly into their evil habits, until, as one has said, "When the craving for drink comes on, even if the pit of hell yawned between me and the bottle, I must attempt to cross it so that I may satisfy my appetite." The only possible cure is for all to unite in decrying its habitual use as being unnecessary and dangerous. What an outcry would be raised, in which the press, the pulpit, and the medical profession would all join, if a serious attempt were made to encourage opium smoking "in moderation" in this country; yet the sum total of the evils caused by opium is not nearly the equivalent of that which results from the use of alcohol among Western nations.—*Illustrated Science Monthly.*

FOOD IN RELATION TO HEALTH.

THE most essential knowledge for everyone is how to live properly, simply, and happily. When we know how to live properly, we shall live happily. Life being given to us, it is our duty to make the best possible use of its privileges. Most people do not know how to eat, sleep, or take exercise in the proper way, simply because they know so little about their own organisations, and the necessary conditions under which life is kept in health.

It is a fact worthy the attention of everyone : that the doctor would have fewer patients if every family would but keep a physiological doctor in the kitchen, or a record of the proper wants of the inner man of every person in the family, taking into account climate, age, condition of health, and occupation. The prevention of disease should in a large degree begin in the kitchen, where so many so-called "ills that flesh is heir to" arise.

When so comparatively few persons know how to select heat-giving, flesh-producing, muscle-making, and brain-forming food, is the above to be wondered at ? But, thanks to Dr. Trall, Dr. Richardson, Dr. Carpenter, Dr. Lancaster, Mr. Buckmaster, Dr. Parry, Dr. Nichols, Dr. Parkes, Mr. A. H. Church, M.A., and many others, much light has been given in practical books and by lectures upon food and its chemistry, and on physiology and its relations to the food we eat. The elements of all food are simple. They are chiefly carbon, hydrogen, oxygen, nitrogen. Carbon forms the solid bulk of wood, seeds, fruit, and oil. Hydrogen, a gas, combines with oxygen, another gas, to form water, and with carbon and oxygen to form oil, starch sugar, &c. Nitrogen, also an atmospheric gas, enters into the composition of vegetables, seeds, fruit, eggs, fish and flesh. Lime, soda, potash, magnesia, phosphorus, sulphur, which enter into the composition of the blood, and are furnished by it to the brain, nerves, bones, and muscles, are found in vegetables, and, secondary, in animal substances, as milk, eggs, flesh. The primary elements of food—carbon, hydrogen, nitrogen, &c.—are the same the world over wherever they exist. Thus, as has been said, every portion of an ox or sheep—bone, sinew, muscle, nerves, fat, skin—is made from grass, grain, and turnips, their ordinary food. Milk has flesh-forming, bone-forming, nerve-forming, and heat-producing material in the exact proportion required by the above-named animals. Whether we eat milk, or butter, or cheese, or beef, or mutton, we eat grass at second hand.

The vegetable and animal kingdoms are full of food productions. We live on leaves, as cabbage, lettuce, &c.; the stalks of plants, as rhubarb, celery; roots and bulbs, as carrots and potatoes; seeds, as oats, rice, peas, &c.; fruits, as apples, &c.; nuts, as walnuts; or flowers, as cauliflowers, and an endless variety of delicious foods.

Every housewife knows, or should know, that motion and warmth are two essential conditions of life; even when the body is quite still, there is continual movement going on in every part of it. The blood is constantly being pumped by the heart, and carried to all parts of the body; the lungs move with every breath, and a change is caused in the brain by every thought. To produce movement some force or exertion is used, and all force involves wear and tear. This wear and tear takes place in the flesh and blood, the fat, and bones, and other materials of which the body is composed. If these used-up materials are not replaced, the body will wear away and the animal existence become exhausted. It is of vital importance a certain amount of heat be kept up in our bodies, which in a healthy person is 98°.

Constitutions differ in regard to the quantity of food necessary for daily consumption in repairing the waste, consequently where there is greater energy used there is greater waste of matter; hence such persons need a greater supply. In keeping up this heat something is used up, and this must be replaced. Food is to the body what coal is to the fire. The body requires good food to give the necessary life and heat, the same as the grate needs the best coal to burn brightly. By good food we mean, first, rightly-selected materials, whether animal or vegetable; secondly, their use in proper proportions, and cooking them in such a manner as to make them digestible, or capable of replacing the waste of the body. Thirdly, the adaptation of food by the different circumstances of age, employment, climate, and state of health. In the preparation of food the first consideration should be its healthfulness. Each man must find out for himself what his physiology requires. Most physicians are content with giving vague directions: "Be careful of your diet; eat what you find agrees with you; eat plenty of good nourishing food, and drink ale and stout, port or sherry."

There can be no reparation of any organ unless there be good blood; good blood depends upon good nutrition, and good nutrition depends upon good digestion, which in its turn depends upon air, light, cleanliness, exercise, recreation, and good food and good water. The four classes of food, viz., heat-producing, flesh-producing, salts, and water, must be

represented in our diet, if the body is to be kept in a healthy state. But before a man decides on what kinds of foods he wants to eat, he ought first to consider which class his body principally requires : whether heat-producing, such as, first, fats, obtained in cream, oil, butter ; secondly, starch, obtained in rice, potatoes, flour ; thirdly, sugar, obtained in honey, fruit, and milk. Or flesh-forming food, such as, first, animal, obtained in lean meat, fish, skim-milk, cheese, white of eggs, &c. ; secondly, vegetable, as peas, beans, lentils, oatmeal, maize, &c. Or inorganic foods, water, and a few mineral elements. The office of food is to form blood, and the office of blood under the direction of the life forces is to nourish, strengthen, and vitalize the whole system, and supply the waste that is continually going on.

Food in connection with nature's finer elements constitutes the best medicine. The tissue-forming foods consist of the gluten, or the tough parts of the grains ; then we have the albumen and fibrine, the gelatine and muscle or flesh-formers. These foods are the basis of strength and are the most nourishing of all fat-producing substances. The arts of the kitchen have chiefly to do with heat-giving and flesh-forming food ; and it will be observed that inclination leads us to couple foods together, so one may supply what the other wants or lacks. For instance, veal and poultry are flesh-formers, but are deficient in heat-giving materials, therefore bacon is taken with them. Pork is very fat, therefore beans, peas, and lentils are taken with it, one pound of which it is said contain more nourishment than three pounds of beef or mutton. Lentils range the highest as a flesh-former, and peas the highest as fat-formers. Then, to cornflower milk is added. Turnips make good mutton and are eaten with mutton. Potatoes are rich in heat-producing elements, and should be eaten with foods less so. Cabbage is rich in the nitrogenised elements. Beets, carrots, parsnips, contain sugar, albumen, and should be thoughtfully cooked with food without these qualities. Fish contains more of the muscle-forming principle than flesh (78 to 97 per cent).

Cream and butter furnish our stores of fat, and we find cheese is precisely the same in its flesh and tissue, forming qualities as beef, but in a purer form.

As we make foods a more serious study, we find that variety is essential to health. We must eat as we must breathe, and we should eat as good food as we should breathe good air.

It is really wonderful when we think that the great force of the elephant is built up on simple vegetable diet. Monkeys, whom Mr. Darwin believes to be our progenitors and near

relatives, live almost wholly on fruit and nuts. The camel, which carries heavy burthens across the sandy desert, feeds upon hard shrubs; and donkeys have strong muscles from the coarsest food. Dr. Nichols says that "the best of all food is wheat, which is the king of grains; it contains the elements of nutrition, flesh-forming, nerve-producing, bone-making, fat-creating. The gluten of wheat is the same kind of matter as the albumen of eggs, the cateine or curd of milk, and the fibrine of the blood and flesh of animals; while the starch is convertible into sugar and fat. Bread is the staff of life, and wheat is the perfection of bread. Bread made from four parts crushed meal and one part flour, slightly sweetened, and made light with two table-spoonfuls of Borwick's baking powder, and baked in a quick oven, is bread fit for any one, and is more easily digestible than the bread made entirely of unbolted flour. We have never known this recipe to fail to be digestible, and have constantly given the bread and recipe to friends. Maize, or wheat, called in America Indian corn, is scarcely known in England, but is served daily upon American or tropical tables, either as hominy, mush, or in the form of meal from which hasty-pudding, johnny-cake, and delicious puddings are made, with the additions of milk and eggs. It contains more oil but less gluten than when food in connection with nature's finer elements constitutes the best medicines. One reason why physicians give for their profuse dosing with mineral drugs is that these elements exist in the human body and must be supplied.

We must have variety of combination in our food. The true economy of food is in understanding the quantity of gluten, and fatty, and mineral substances we eat, and so mixing them that they may be agreeable and wholesome, and come nearest to our needs. Meat or eggs require some starchy food, such as bread or potatoes, to supplement them. The condition of persons must in all cases be taken into account. Children, who naturally are full of life and excitement, should not take much stimulating food, such as meat, tea, coffee, chocolate, fat, mustard, horse-raddish, spices, pepper, or high seasoning of any kind, nor should full-blooded grown people who have irritated stomachs. They had also better avoid eggs, corn, bread, oatmeal, mush, buck-wheat, strong acids, sweets, and especially liquors and tobacco.

Elderly people in a negative condition generally can stand a more stimulating diet. Those who have too much soft, adipose flesh should exercise much in the open air, avoid fatty and starchy foods, and adopting the proteids more generally, or tissue gluten foods. Thin people, and lean, should use

more of the amyloids—starch, gum, sugar, and some fatty substances, if they are able to digest them.

Costiveness should be treated by the coarser foods, and mushes with fruits, especially prunes; while boiled milk, tea, white sugar, blackberries, white bread, &c., are less proper. So in this way each one can be his own doctor. Vinegar, being fermented, is less healthy than lemon juice. Olive oil or cream is more digestible than butter or lard; while milk is often quite injurious to persons of deranged stomachs or liver. The fruits of the earth are in many cases nature's true medicines.

And here we invite the attention of dyspeptics, and all sorts of invalids, to the most delicious of continental cures—the grape cure. It consists in living entirely on bread and grapes during August and September. With a moderate portion of bread—twelve to sixteen ounces—patients eat from two to four pounds of grapes a day. They walk about among the vineyards, breathing a pure air, enjoy the sunshine, and rest from all toil and care. Such pure food makes pure blood, and pure blood builds up a healthy body.

In England the grape cure is more difficult to take, except for a very moderate season of the year. Few people will pay 3s. to 6s. a pound for grapes for a diet—say for a month. Imported grapes, though generally very good, are not always quite ripe nor of the most healthful and nutritious varieties.

Substitutes may be found, though not of equal benefit. The strawberry cure may be nearly as effective; while there is considerable virtue in ripe gooseberries. Oranges are of almost equal value in a medicinal way. Plums, pears, and apples are healthy food, and are especially good for fruit diet. But apart from substitutes in other fruits, how can we have the grape cure at home without going abroad and spending an autumn in the Tyrol, or along the Upper Rhine, the Rhone, or the Loire? In this way. The richest grapes in the world grow along the shores of the Mediterranean. These big, luscious grapes are dried in the nearly tropical sun, and then packed up in boxes and kegs and sent to us as raisins. We put a few of these grapes into puddings or cakes, but that is not the curative way of eating them. They are Sir William Gull's favourite lunch. We get a few at dessert with almonds, after a full dinner; but that is not the grape cure.

How then? Well try this way. It is the very best substitute for the fresh grape cure we know of. Any one can buy some good pudding raisins. They cost about sixpence a pound. The water has been mostly dried out of them. Wash them well with plenty of water, to free them from dust, and pick,

out any bad ones. Then put them to soak all night in as much water as they will absorb, to swell them out to their natural size; and then bring them slowly to the boiling point, and let them simmer half-an-hour. If you want a quicker process, wash, then put them in cold water, and let them come very slowly to a simmering point. You then have a most healthful dish. Live on brown bread (or white bread if you find the brown too asperient) and these plump, delicious grapes, and you have the continental grape cure, in another form, in perfection at home. Many have tried it, and know that it is good. It has the peculiar advantages of being procurable everywhere, and at all seasons; and there are very few curable diseases which such a diet will not help to cure.

Milk and vegetables may be taken in moderation, and other fruits, for variety, in most cases. But those who go in seriously for the the cure of diseased conditions, will do well to keep almost entirely to bread and grapes.

People who eat little or no animal food must find their chief flesh-promoting food in pulses, or in foods such as contain mineral matters, as salt, lime, iron. These substances are chiefly supplied in vegetables and fruit, while lime is also supplied in water and milk. Good pure water is essential to health. It sustains the whole vegetable and animal creation, and is the medium of life to all life. In its purity it is perfection. Every mixture diminishes its value and interferes with its operations. Man cannot improve it by any concoc-tions. To colds are laid one half the ills that flesh is heir to. Certainly two-thirds of the remaining half are due to ill-prepared food, and hence come from the kitchen (which should be as clean and sweet as any room in the house), leaving one-third to the ill effects of bad air and bad water. But even a cold may be produced by ill attention to diet.

The more we know about heat-forming foods the better we shall understand that the body requires in sound health a certain amount of heat, and during cold weather the system requires more of the heat-forming materials in food. But again, if the stomach is overloaded with indigestible food a cold is more readily taken. Why? Because the blood that should be producing a healthy influence all over the body, to resist any greater pressure of cold, is, instead, called upon by the digestive organs and stomach to help get rid of obstinate food.

It is painful to see how badly and extravagantly people live, when the best of food for health and strength is cheap, and can be made delicious and digestible. Good health depends upon the five essentials, pure air, personal cleanliness,

clean and well ventilated houses, pure and healthy food, and pure water. Purity being the condition of health ; the pure body, is a healthy body. Can any one imagine a clean London with three or four millions of clean people, and no more disease ?

Let us as a rule follow nature as she points out to all the members of the animal kingdom their proper food. She will also assist us in our selection.

This motto in eating we should all do well to remember, that a light, pure diet makes a clear head. J. A. F.

WHERE ARE THE MOTHERS?

HAS it gone out of fashion for mothers to take care of their own children ? Is it a thing to be ashamed of ? As I walk in the parks or in the streets, I see plenty of children, either playing with each other or attended by nurses in white caps and aprons. They are not neglected children, as to physical wants ; they are well fed, and well, often elegantly, clothed ; but where are the mothers ?

I have occasion to read or examine a large number of children's magazines and books. I find that the prattling questioners talk to their nurses, not their mothers. It is a nurse who is called to take Eddie to bed ; it is a servant who brushes Nellie's hair before tea ; and, alas ! it is the nurse who tells little trembling Lucy that a big bear will come and eat her up if she does not lie still and go to sleep ; and a maid who turns the gas off entirely and leaves nervous Willie to lie and tremble for an hour.

What is it absorbs the mother so that the bed-time hour is not made perfectly happy by her presence in the nursery, to hear the little confidences and answer the endless questions of the children ? Can there be anything pleasanter than the children's loving words ? Can there be anything more picturesque than the firelight glow on the white-robed figures who cling about mother's knee ?

But the mothers say :—“We have no time. There are calls to make and concerts to attend ; there is shopping to do, and there are endless stitches to be taken. We provide good nurses, and give the children all they need. Let them enjoy themselves, but keep them out of the way.”

I wonder if the calls, and the concerts, and the shopping, are more entertaining than the children ! I wonder what child, given a choice between innumerable tucks and ruffles

and mother's society, would hesitate in the choice ! What is there that lifts care from the heart like a child's happy laughter ? What is there which removes every soil and stain from life's journey like a child's kiss ? Who would not work a weary while to be rewarded by a child's clinging arms about the neck, and a child's whisper,—“Mamma, if you should die I should not want to live one minute.” It is the heart-broken mother who, when it is too late, cries out :—

“ If I could mend a broken cart to-day,
To-morrow make a kite to reach the sky,
There is no woman on God's earth
Would be more blessedly content than I.”

I have in my mind two children whom I have known, both without a mother at the age of seven. In the one case, the mother had been the child's daily companion. They walked and talked together ; the little girl studied her lessons at her mother's knee, and said her prayers there. As day by day consumption drew the life away, the child clung closer and closer to her, until at last she was left alone. A year and a half later, as the little girl was playing with some companions, she looked up suddenly into the face of a lady who sat by and said :—“ Nobody knows how happy I would be if my mother would only open the door and come in ; if I could only see her just for a minute.”

In the other case, the mother was a devotee of fashion. Home seldom saw her. The children were put to bed by servants, and the mother went off to the opera. Without ascertaining whether the nurse was in, she went away to ride or walk, coming back when she felt inclined. Suddenly and very unexpectedly she died. To the little girl it was simply a surprise, nothing more. A still more fashionable aunt came to reside at the home, and the mother was forgotten, or spoken of easily and lightly. I think before she reaches womanhood the whole idea of mother will be nothing but a vague dream.

How can a mother resist the outstretched arms of her baby ? Yet I have heard many and many a mother say she would rather do anything than hold her own baby, and as to appearing in the street with it, actually carrying it herself—the idea is absurd !

Is it a weariness to feel the little fingers cling to your neck and the tiny lips close to yours ? To hear a low : “ I love 'oo, mamma,” and to feel kisses pure and sweet ? One of the most tender poems I ever read was by a mother whose babies had all slipped from her arms, grown up and gone to school, and the house was so “empty of baby noise.” She felt

lonely, her arms were empty, and she wished the babies back in them again.

Oh! believe me, there is no sweeter companionship in the world than that of children, none purer, none that pays half so well. We shall never grow old if we keep young with the little ones. We shall never grow worldly-wise and crafty. Our children will look back by-and-by to a young life filled with the thought of their mother. Above all, let us remember that it is only to those who "become as little children" that the kingdom is promised.

A. M. M. PAYNE.

Facts and Gossip.

THE cholera, according to the encouraging dictum of Dr. Koch, is certain to make the tour of Europe. Eminent authorities expect its appearance here at the beginning of August. Would it not be well if the Local Government Board were to issue an energetic notice to all local authorities, reminding them of their duties, and recommending them to distribute to every householder advice as to the best method of preparing to ward off the plague? Birmingham is the only place where these precautions are not needed, for, owing to some unascertained cause, the headquarters of Radicalism is cholera proof. In this it resembles Lyons, so that in some way or other the Asiatic pestilence seems to have a dislike for places notorious for their advanced political opinions.

FOR a good effective illustration of the "improvement in the quality of our elementary education" about which Mr. Mundella spoke at Manchester the other Saturday, one can hardly do better than turn to the little volume which Mr. Henry Craik has just added to the "English Citizen Series." Here is a written answer which, Mr. Craik tells us, was obtained from "a child of average intelligence in an inspected school" less than thirty years ago:—"My duty toads God is to bleed in Him, to fering and to loaf withhold your arts, withhold my mine, withhold my sold and with my sernth, to whirchp and give thanks, to put my old trash in Him, to onner His old name and His world, and to save Him truly all the days of my life's end."

IN the height of summer, when every one wishes that every one else's dog was muzzled, the news that M. Pasteur's hydrophobia experiments are going on successfully will be very welcome. Of thirty-eight dogs which have been bitten under M. Pasteur's orders, half had been previously inoculated, the other half had not; and while these latter have died without a single exception the nineteen others are still "about, and as well as ever." These are good times for veterinary surgeons in Paris, for M. Pasteur's dogs are now to be placed under

medical supervision to see whether the inoculation holds good permanently or only temporarily. If hydrophobia be really produced solely by the bite; and if M. Pasteur's preventive prove permanent, the case for inoculation will be complete ; and it ought to be as much a matter of obligation on every one who keeps a dog to produce a certificate of its vaccination as to produce its license.

A PAPER read at the last meeting of the Academy of Moral and Political Sciences shows that the study of hypnotism, as it is called in France, has made a good deal of progress lately. It is not very long since a lecture on the subject was read before the same learned body by M. Liegeois, and this was followed soon after by the reading of a work published by M. Bernheim, Professor of the Faculty of Medicine at Nancy. M. Janet now completes the explanation by describing some of the experiments whereby the doctors have arrived at an understanding, or what they think to be an understanding, of the subject. It appears that between "magnetism," or mesmerism, as we call it, and hypnotism there is a very wide and clearly-marked difference. The first is mysterious and inexplicable, the second capable of being illustrated by experiments and explained in theories. "Hypnotic suggestions" are produced by two well-known scientific laws, of which one depends on the association of ideas, the other on the association of movements. Hence the desire to jump over a cliff, which follows upon the idea of falling over it ; and hence the natural act of so jumping, which has been known to follow. But hypnotism has three stages or phases, thus pleasantly named—lethargy, catalepsy, and somnambulism. In the first, few "suggestions" are possible ; in the second, movements may be suggested ; and in the third, positive acts—such as walking about a house. Of the experiments conducted with a view to illustrating these phases, not the least curious was that in which we are assured that different, and even opposite, sensations were produced upon different parts of the same man's face—an expression of pain flitting over one side of it, while the other beamed with pleasure. It is rightly supposed that such a result could not well be arrived at by shamming ; and it is, of course, by reason of the shamming of patients that there is the most difficulty in arriving at any satisfactory knowledge of this subject.

Correspondence.

To the Editor of THE PHRENOLOGICAL MAGAZINE.

SIR,—While passing homeward along Sauchiehall-street, about ten o'clock on a Saturday evening last year, I found a crowd surrounding a lad about seventeen years of age, who was sitting on the pavement, gesticulating violently, and showing other signs of mental excitement. On asking a gentlemen who was standing by the side of the lad, and who appeared to know him, what had frightened him, for he seemed terror-stricken, I was informed that they had been walking along the

street together a short time before, and at that time the lad seemed to be quite well, and was speaking sensibly enough, when, suddenly, he darted from the gentleman's side and began to run rapidly along the street, and ultimately sat down where I found him. The gentleman, whose name is Mr. P——, was very much alarmed at his friend's strange behaviour, was quite unable to account for it, and said the lad had never, to his knowledge, behaved so before.

Just then the lad began to complain of a pain in his head. So I knelt down by his side and asked him which part of his head was painful. He immediately drew his hand across the position of Cautiousness, saying at the same time, "It's cut." I placed my hand on his head and examined it carefully, but could not find any external injury on any part of it. I was about to ask him to place his finger on the exact spot, when he suddenly sprung to his feet, shouting out something about a "house being on fire." I seized him by the right arm and Mr. P—— caught him by the left, but he struggled so violently that we let him go, and he ran along the street, followed by Mr. P——, who begged me to accompany him, which I did.

Well, to state the facts as briefly as possible. The lad wandered about that quarter of the city for nearly two hours, rushing up one street, then along another; sometimes walking quietly along, for a short time, then turning suddenly and rushing rapidly off in the opposite direction. We kept as near to him as possible. At one time, while passing a church, he stopped, and catching hold of Mr. P—— by the arm, he shouted "Come back, that church is falling!" and then darted away, the other way. By-and-by he became exhausted, and began to walk very slowly, so we kept by his side, and he told us how he had been fighting with a man down the street, who struck him on the *head*. "Nonsense," said Mr. P——, who was beginning to lose patience with him. "It's a fact, though; I feel the pain yet." "Show me the exact spot," said I. "Place your finger on it." Without the slightest hesitation he raised his hand to his head and placed his finger on the organ of Cautiousness. "This is where I was struck." We tried to persuade him to go home, but without success; so we kept walking by his side, and he gradually grew better, and in half an hour he seemed to understand his position, and began to talk in a rational manner, saying, in reply to our query, that he was quite well, with the exception of a slight pain in his head. I again asked him to point out the spot, and he again put his finger on Cautiousness, same side of the head as before. I drew Mr. P——'s attention to the place.

The lad had lost his hat during the evening, so we took him into a shop and bought him a new one. It was now about twelve o'clock, so we accompanied him home, and left him there.

Now, I wish you to specially note, that while his hallucination lurked, he suffered from a pain in his head—at times he imagined that it was cut, and that when asked which part of his head was painful, he on three separate occasions, with intervals of half an hour between them, pointed out the position of Cautiousness as the

seat of the pain, and that the one feeling exhibited by him was *fear*, —“a church was falling,” &c.

During a short conversation which I had with Mr. P—— afterwards, he told me that they were both engaged at the same business, but had only been acquainted with each other about six months, and during that time the lad had behaved very well, although he was a little unreasonable at times. He was often singing and whistling, and had several musical instruments at home. Mr. P—— never knew him to behave in such an extraordinary manner before, and, he continued “I shall take care to be out of the way the next time the fit comes on.”

The lad’s head was about the average size, fairish, silky hair ; his perceptives were larger than his reflectives, the forehead sloping neatly back. The most prominent organs were Tune, Ideality, Sublimity, and Cautiousness.

While purchasing a hat the other day, the proprietor of the establishment in which I was made a remark to me about my disposition. “How do you know that?” said I. “Why, you must have been studying the question. Do you know much about phrenology?” “I know nothing about phrenology,” he replied, “but I have found from experience, that people with your shape of head have always that kind of disposition.” “Do you mean to say that you have found this out by observation alone, and without any guiding principle?” “By observation alone.” He said : “I know absolutely nothing about the theories of the phrenologists.” He also told me that he had always found it to be more difficult to get a good price for a hat from persons whose heads were thick *at the sides* ; and he had long been of opinion that persons with that description of head were more economical than others.

The hatter is an intelligent gentleman, a little past middle age, who has successfully conducted an average business for years, and for one in his trade to have discovered these facts for himself, which are quite in accordance with the doctrines of all modern phrenologists, and that too without any previous knowledge of their principles is very satisfactory. Should you consider these facts of any value you may use them as you think proper.—Yours truly, A. CHRISTIE.

39, *West-end, Park-street.*

Glasgow, July 4, 1884.

IN my opinion the want of occupation is no less the plague of society than of solitude. Nothing is so apt to narrow the mind ; nothing produces more trifling, silly stories, mischief-making, lies, than being eternally shut up in a room with one another, reduced as the only alternative to be constantly twaddling. When everybody is occupied, we only speak when we have something to say ; but when we are doing nothing, we are compelled to be always talking ; and of all torments that is the most annoying and the most dangerous.—*Rousseau.*

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

M. (Aberdare) is one of the useful of the earth. She is always doing, puts herself in front, does all the extra work. She is quiet, makes but little noise. She is reserved, decided, cautious, always planning for the future. She is thoroughly conscientious, and keeps all her engagements. She is respectful to strangers and superiors, and kind hearted. She has all the qualities for a nurse, a housekeeper, or the one to have the charge and to look after the outgoes and incomes. She is an oracle in the family, thinks much about a spirit life, and many things are revealed to her without any study on her part. She almost knows beforehand what is going to take place, for she is spiritually-minded. She appears to the best advantage in what she does rather than what she says. She has good judgment, seldom makes mistakes. She has a genial, healthy influence over others. She can do almost anything that the occasion requires. She has a good ear for sounds, and should be fond of music.

J. W. H. (Cockermouth).—The gentleman whose portrait is sent with the lady has an elevated brain, with superior intellectual and moral qualities. He is given to thought and general investigation. He is constitutionally kind and tender hearted, obliging, and polite. He may live to a great age, because he is prudent, and takes care of himself ; but he has not strong vital powers, nor great force as coming from the base of the brain. He is neither cruel, cunning, nor selfish. He is thoughtful, mirthful, and youthful. The photograph of the lady indicates strength of character, perseverance, determination, steadiness of purpose, presence of mind, fair energy, strong affection, and domestic feelings. If allowed to stand by the side of her husband as a companion, and is not snubbed or dictated to, she will make a very devoted, serviceable wife, a good manager of home affairs, with more than average practical talent and common sense. If there are strong attractions and love on both sides, I should say, “ Go ahead,” for there is no great occasion for antagonism of any kind.

E. (Usk).—You have a predominance of the motive and mental temperaments. You are comparatively strong, steady, and uniform. Are subject to some extremes, and perhaps too ready and perhaps too free to promise when excited, for you are very anxious to accommodate your neighbours. You are naturally diffident, respectful, mindful of superiors. You are comparatively modest, easy and graceful in manner. You are kind and tender hearted. You need more hope, enterprise, and faith ; you also need more force, executiveness, and pluck. You are rather cautious in venturing where you have had no experience. You have a favourable intellectual development, are eager for know-

ledge : you could excel as a scientific scholar, or as a literary man. You have more than average gift as a speaker, and could make a good verbal critic. You require considerable motive to bring your mind into full action. You should give your attention to intellectual and moral pursuits rather than to business.

H. F. A. S. (Brighton).—You have a varied character, and one strongly marked ; with a suitable education, you could have excelled as an artist or a soldier. You have much versatility of talent, more than ordinary taste, sense of arrangement, power to organise, command, and take the lead. You have great will power, determination of mind, and presence of mind in times of danger. You are a great lover of beauty, either in art, oratory, or nature. You could make a copious speaker, and vigorous orator. Your talents are such as to enable you to excel either in science or philosophy. You are a great observer, a great analogical thinker, and have an intuitive perception of truth. You were born to command. Although you are very kind hearted and generally respectful, yet you must have had some trouble with your temper.

Miss P. (Sheffield).—Is a wide-awake, quite intelligent, a great reader, very inquisitive, exceedingly quick to take ideas. She is very ambitious, is ahead of her years in aspirations. She is very susceptible to praise. She is liable to work and study too hard to excel, and to be admired. She is also quite cautious and mindful of consequences. She is all alive to what is going on, delights to tell what she knows. She has good qualities to entertain company. She is full of sympathy and has a genial spirit. She is very sharp to understand the difference between right and wrong, propriety and impropriety. She is exceedingly loving, social, and companionable. She will make her mark in the world, for she has talents as a scholar, and has abilities for writing and teaching, or some other public sphere of life.

DR. KOCH, the German specialist, has presented the following note to the Mayor of Toulon : "Cholera is propagated by people, and is communicated almost without exception by direct contact with human beings or the articles they wear. In time of cholera it is necessary to lead a regular life, experience showing that digestive derangements promote the outbreak of cholera. Excess in eating and drinking should therefore be avoided, as also heavy food, which may produce diarrhoea. Articles coming from an unknown quarter should be cooked ; I mention milk in particular. All water defiled by man should be prohibited. Doubtful water to be avoided is that coming from shallow wells in inhabited spots, and from marshes, ponds, brooks, or watercourses receiving and conveying contaminated water. When it is impossible to obtain water pure, the simplest plan is to boil it. This refers not merely to drinking, but to kitchen water, for the choleraic germ may be transmitted when in water to the person using it for washing linen or dishes, or for preparing food, or for ablutions.

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M. LOUIS PASTEUR.



HE engraving of the head, face, and shoulders of M. Louis Pasteur indicates balance of power and harmony of organization.

He is well supplied with vital power and animal life, and is equal to the task of vigorous action of both body and mind, and is not afraid of new undertakings. He is favourably organized to appreciate life and physical comforts. His broad shoulders, full chest, and wide-spread nostrils, all indicate a strong hold on life and more than ordinary power to do executive work.

Difficulties and dangers would only be a spur to such a man, when ordinary opportunities would not attract his attention. The make-up of his face, and his general expression, indicate self-possession, presence of mind, discipline, and patient perseverance. He will never be so impetuous as to jump to conclusions, or to be in so great a hurry as to fail to be correct. He must belong to a family whose ancestry had great tenacity and application of mind and singleness of purpose.

The base of his brain, from the perceptive faculties back, is large and broad. He has elements of energy and force, and will not stop at trifles ; could show very strong likes and dislikes. He has a good, substantial appetite and digestive power, and believes in living as he goes along. He does not worry or chafe much about anything, but takes things as they come, as though they were to be, and makes the best of them. His intellect is of the scientific, perceptive, observing, knowing, experimental type. The central range of faculties, from the root of the nose up, are large, and, joined to his constructive faculty, give him great versatility of talent and make him handy in doing many things ; is not wanting in talents to invent and bring principles to bear accurately. He has a correct eye for forms, shapes, outlines, proportions, and the

fitness, and adaptation of parts; has also large weight, and can carry a steady hand; can judge of distances well, and remembers places accurately; has favourable talents to organize, systematize, and arrange work and conduct experiments.

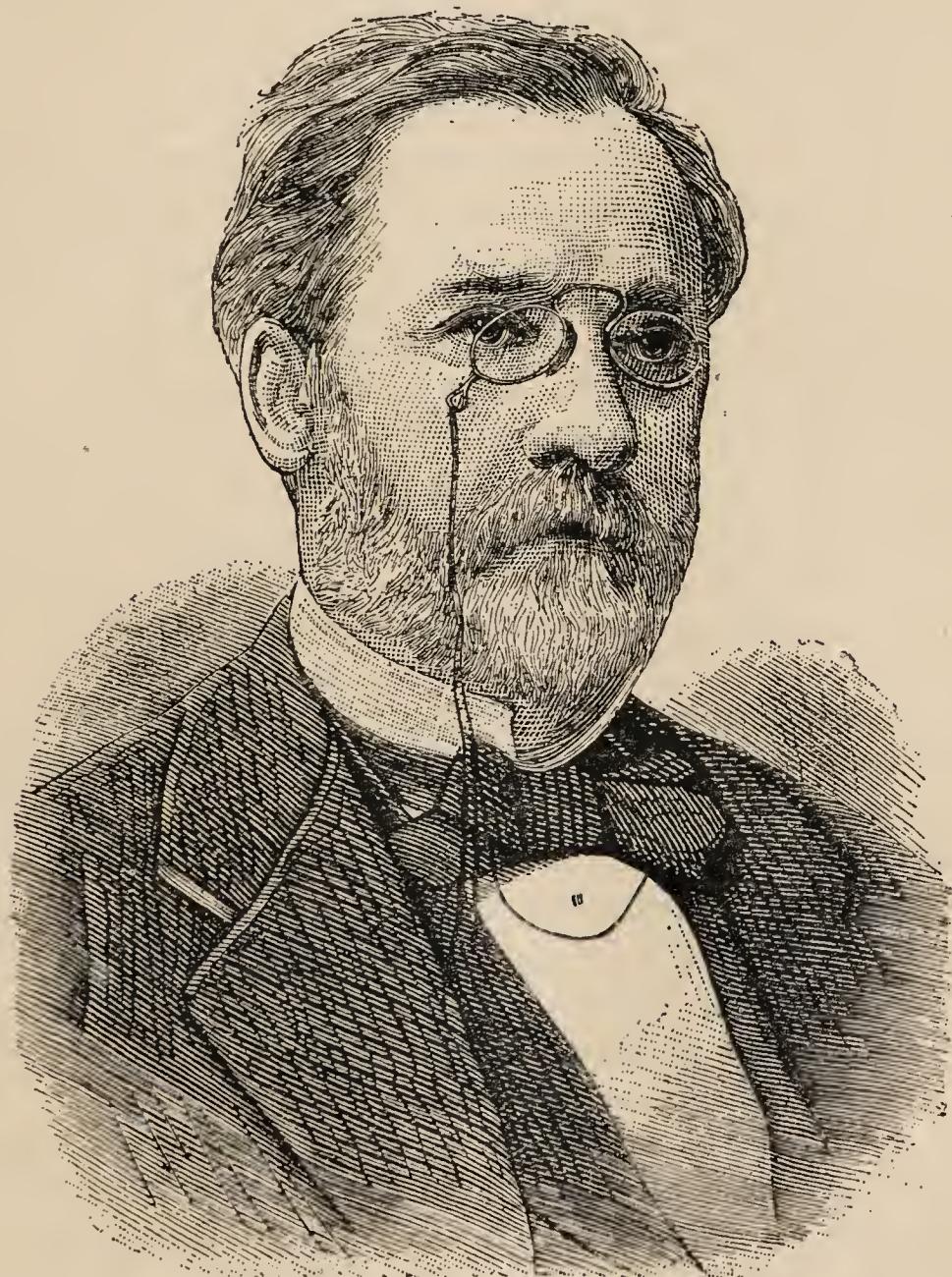
He is particularly well qualified to analyze, compare, discriminate, and see differences and resemblances; is well able to criticise and see discrepancies. Is remarkable for his intuitive perceptions and power to see the difference between error and truth. He is able to foresee and determine results beforehand; he takes in the whole situation at once. As a physician he would readily understand the physiology and temperaments of his patients at once, and administer treatment accordingly. He seldom has occasion to change his opinions, and he can turn off a great amount of business in a day. He is generally in earnest, and means what he says, and does not trifle. If he is mirthful or witty it is when he is with others who are, and who take the lead. He can return a joke when given and is appropriate in his remarks, and as a speaker would come to the point and deal in the application of principles, for he is a thoroughly practical man. His head is so high as to indicate strong feelings of humanity and sympathy for the welfare of others, high sense of character, a strong desire to be a prominent member of society, and exert an influence over others. He relies on his own resources, prefers to take the responsibility, and act and think for himself, and is not much affected by praise, blame, or danger.

About the middle of December, 1880, Dr. Lannelongue, of Paris, hearing that M. Pasteur had resolved to institute researches into the nature of hydrophobia, called the attention of this distinguished *savant* to the case of a little child, five years old, who had been bitten by a mad dog a few weeks before, and who had been removed to a hospital for treatment. When offered any liquid whatever, the child would fall into frightful convulsions. It died two days after admission to the hospital, strangled by the frothy matter which accumulated in its throat.

Several hours after the death of the child, two rabbits were inoculated with some of this frothy matter, and died from the effects of it two days afterwards. Such was the beginning of M. Pasteur's researches and experiments upon hydrophobia, which he has conducted during the last four years, and by which he believes he has been led to the discovery of a means of protecting dogs from rabies, and, as a necessary sequel, of protecting the human race from a frightful malady which in

every country where rabies exists demands hundreds of victims every year.

The experiments, cruel as they may appear at first sight, are made in the interest of humanity, and M. Pasteur is careful not to inflict needless suffering on the dumb creatures which he subjects to the operation. After many experiments, which may be passed over in silence, he hit upon the expedient of inoculating the brain of a dog with the virus of rabies. The animal selected is fastened to a frame, and rendered



insensible by means of chloroform. The process of removing a small portion of the skull, and introducing the virus into the brain, is performed without pain to the victim. By this method of inoculation the operation of the virus is hastened. Instead of in two or three weeks, the effects appear within a few days. M. Pasteur not only gained time by this process, but was rewarded by the discovery that rabies is a malady of the brain.

It is interesting, in a certain sense, to accompany M. Pasteur through the rooms where these experiments are carried on ; but it requires a good deal of nerve to watch the animals as the stage of rabies approaches. They are confined in cages with strong iron bars, for the security of those who are in charge, and who have the task of feeding the animals. A sliding-door is drawn up just enough to admit a dish containing the food, which is pushed along the floor of the cage by means of a stick.

In the course of his experiments, M. Pasteur made the important discovery to which we have alluded. Starting from the idea that the virus of an infectious disease on its passage through different species of animals is subject to alteration of its virulence, M. Pasteur inoculated monkeys with the virus taken from a dog affected with rabies, and found that the poison, after having passed in succession through three monkeys, becomes so attenuated that its inoculation into a dog is harmless, while a dog so inoculated is rendered proof against the original disease. But, on the other hand, the virus of rabies, on its passage through the rabbit and guinea-pig increases in virulence, its intensity becoming even greater than that of the virus taken from a dog rabid in the usual way. The maximum increase in intensity is not, however, attained until several transmissions through the rabbit or guinea-pig.

The French government has appointed a commission of scientific men of indisputable authority to assist and check these interesting experiments—the names of Villemin, Virchow, Bert, and Bouley lending no small weight to the prospective results of the inquiry.

HEAT AND COLD.

UNDER the above designation we are accustomed to refer to certain sensations well known to us all, and we also observe in nature certain effects which we refer to the agency of one or other of the above factors. Nevertheless, it is still a moot point as to what the first actually is ; and as to the second, it is still, or was not long since, considered to be only a deprivation of the first. We therefore wish in this paper to say a few words in order to show that the two factors, heat and cold, have a very intimate connection or relationship one to the other.

Heat is the great separator in nature, from its great volatility, elasticity, permeability, and dispersing tendency.

If, therefore, as is supposed, and probable, the original form of matter was that of the minutest atoms, the original chaos must have been a sort of nebulæ, in fact, in the gaseous state, like the air, ether, comets, &c. In that state of matter, and of the world, or universe, heat would probably be an important factor ; but had this universal separation continued, there would have been nothing solid, and very little attraction on a large scale ; in other words, little or no gravitating force.

Something therefore was required to solidify these ethereal substances. What was that something ? Pressure without weight, which latter is the result of gravitation, would act but feebly. Another force therefore was requisite to bring about solidification, say, the opposite of heat, viz., cold.

Cold freezes and solidifies substances, holds them tight in its strong grasp, as we see, for countless ages. Examples : the ice in the polar seas ; the mammoth discovered in Siberia, after having been thousands of years locked up in ice. The effect of cold is also to be seen in the formation of sugar, salt, and other crystallizations ; all of them results of the cooling process by evaporation. If therefore heat is one of the greatest dispersers, it seems probable, nay, almost necessary, that cold must be the opposite factor ; the action of the two thus bringing about the various results of separation on the one side and aggregation on the other. Viewed in this light, cold can no longer be considered as a mere *deprivation* of heat ; it must be a distinct and separate factor, or opposite pole, so to say, of the same element, for it seems difficult to understand the outward movement of heat particles unless there be a cold medium to attract them ; for, were they all of equal temperature, there would be nothing to cause them to move.

Oxygen, is, we think, a main factor in the production of cold, as it is also of heat. Artificial ice is daily formed by means of heat processes ; and the cold blast, oxygen, from the outward air is a great factor in the smelting of iron ; in other words, in the production of heat. In each case, the opposites bring about the greatest results ; and the same oxygen which in one case produces heat and flame, under other conditions will bring about cold. A curious experiment will illustrate this. If you make a vase of platina red hot, then pour into it a little water, after that a little sulphuric acid, and then turn it over, the mixture will be found to be perfectly frozen. The reason of this phenomenon is, that the sulphuric acid evaporates so quickly, owing to the heat of the vase, that the cold produced by its evaporation is sufficient to freeze the water.

There are other considerations which tend to show the close relationship between heat and cold. Non-conductors, such as straw, sawdust, &c., in which ice is often packed, keep out the extraneous body-heat from penetrating and melting the frozen mass, and enable it to bear the transit per ship across the tropics. Cold, on the other hand, is also kept out in the polar regions by wearing wool, fur, and other non-conductors. Fat and oil also prevent the action of air (oxygen) on wounds.

Thus the same non-conductor will keep out both heat and cold. The action of these agents on our bodies has often also very similar effects. Heat burns, and so does cold. As an example of this latter fact we record the following anecdote. "At Montronge, in France, when the thermometer marked twenty degrees centigrade, a boy of ten or eleven years of age, when going to school, bethought himself of applying his tongue to a bar of iron in order to find out how cold it was. It there remained fixed ; he could not withdraw it, and he began to cry out. The iron, being a good conductor, had, at that low temperature, decomposed the tissues and adhered to the skin, thus producing a burn. The professor of the college sent for the locksmith, who immediately breathed upon the part, thus thawing the ice and releasing the tongue. The same thing happens in the arctic regions when the temperature descends to thirty, forty, or fifty degrees centigrade. If any one places his hand on a piece of iron, it remains burnt in the same manner as if the iron had been made red hot." Heat in the tropics renders people listless and inactive, and extreme cold brings about sleepiness, torpor, and often death. Heat rays can be collected and so become more intense. Cold, also, if let in through a narrow opening into a warm room or furnace, also becomes intensified. Heat currents go from the tropics to the poles, as in the case of the Gulf-stream ; equally so does the cold current from the antarctic regions strike the coast of Africa at Mossamedes, about fourteen degrees of south latitude, and thus produces a climate in the tropics where Europeans both live and thrive. In the one case you have a warm current *from* the equator ; in the other, a cold current towards the equator.

Then again there is eternal ice at the poles, but also there is never-failing ice on Chimborazo and on the Himalayas ; and if at the poles a six months' summer but slightly melts the ice, so right under the line the snows are eternal, although subject to the daily rays of the sun all the year round.

The very fact that heat and cold are so variable goes to prove that they are but *conditions* of things, for by an alter-

ation of the relations the one or the other may be produced. Sugar, if put into a glass of water gives it a cold taste, and is therefore found to be very refreshing in southern countries.

Salt also keeps the sea-water at a low temperature, though it likewise seems to prevent it from forming ice, excepting at a temperature vastly below the freezing point of *fresh* water ; another proof of this is, that it is not only a low temperature which is required to form ice, but a certain condition of the watery particles.

The influence of cold on crystallization and solidification is further exemplified by the coagulation of blood, which being liquid in the body, quickly coagulates on exposure to the air. Vinegar greatly assists in bringing about that change ; but vinegar is an acid, and acids are the result of the action of oxygen. Acids again are the great precipitators in chemistry of metallic and earthy substances, resulting in crystallization, in other words solidification. Not only blood, but most of the gums, resins, caoutchouc, &c., that exude from trees and plants, quickly solidify on exposure to the air in which oxygen is contained. These examples are given to show that in the action of cooling, oxygen proves to be a very important factor, and leads to the conclusion that there is a connection between oxygen and cold as well as between oxygen and heat, but acting in an opposite direction, as influenced probably by an electric current, the one pole producing heat-*mobility*, the other cold-*immobility*.

That heat is motion, or rather the result of motion, was recognised above forty years ago by Dr. Roget, who stated that the sun's rays only became heat when they mingled with the earth's particles. "The solar rays agitate the molecules of bodies in penetrating them ; this agitation is what we call heat. Thence it happens that in proportion as we recede from the earth, heat diminishes. In order to separate the solar rays from the heat, it is sufficient to insulate them from the terrestrial emanations." Heat can also be produced by friction, another form of motion which, like the action of the sun, agitates the molecules of matter ; in chemical changes the same motion is originated, and the same heat evolved. On the other hand, cold is immobility—a result of *no* motion ; and, in fact, all things are cold where not affected by motion, or by heat, the result of motion. In life, animate bodies are warm, because a constant action causing combustion—heat—is taking place within them ; when this action ceases, and motion no longer continues—the coldness of death ensues.

It thus becomes evident that these two factors are constantly acting and re-acting one upon the other, and would

therefore appear to be only parts of one principle having two poles, the one positive—probably heat—the other negative—cold. All through nature these two are in a state of oscillation, or balance, neither of them being at any time absolute. Doubtless, in many cases, the cold factor will apparently lock up everything in ice. I say *apparently*, since even at the poles, and at the tops of the highest mountains, some part of the frozen matter will be less so than another part; hence arise dislocation of icepacks and icebergs from the former, and rivulets and streams flowing down the mountain-slopes from the latter.

Then again, what is it that causes the movement of the air, in other words, wind? It is but the antagonism of these two elements, heat and cold: directly the temperature is raised or lowered in one direction, the opposite element immediately rushes in to endeavour to bring about an equilibrium, which the slightest thing, however, upsets, and again brings on motion, and thereby constant circulation.

Again, different bodies have different degrees of susceptibility for receiving heat or cold. The amount of heat that will melt lead, will barely warm up iron, still less so gold, and will not set light to asbestos. On the other hand, the amount of cold that will freeze oil will leave water perfectly liquid, and that which freezes water, will not do so in the case of alcohol or mercury.

It is worthy of remark, that at the poles, where the greatest amount of cold is present, the *magnetic* attraction is strongest. May not the slowness of the *motion* of the earth in that region be one, at least, of the causes of that low temperature? At the equator, on the contrary, where the motion from the earth's rotation is immeasurably increased, the heat also increases in like manner, and the *repellent* force necessarily becomes much greater. This difference of condition between the poles and the equator, may thus produce an electric current, and determine the interchange of currents both of wind and water.

We have thus, in the foregoing examples and arguments, endeavoured to prove the statement with which we set out, that heat and cold are two separate factors, though having an intimate connection one with the other; and that heat alone could not produce the various results which are apparent in nature, but must have another and separate element to combine with it, so as to bring about those various changes and differences.

A. H. IVENS.

SELF-ESTEEM.

I COULD never understand why it should be considered an undesirable thing that we should under-estimate others, and yet a desirable thing that we should under-estimate ourselves. The inculcation of that kind of modesty which consists in thinking humbly of ourselves for the mere sake of doing so, seems to me to be one of the fundamental errors in our system of ethical philosophy, and to be inconsistent alike with the highest moral law and the truest social economy. It will be readily conceded that truth should be a primary object of our devotion ; and, that being admitted, it cannot be denied that our pursuit of truth, to be consistent, must be extended even to our estimate of ourselves.

The moralists, then, ought, in accordance with this principle, to enjoin upon us that we should endeavour to think, not necessarily humbly, but always justly and truly, of ourselves. An individual has no more right, I maintain, to consider it a virtue to undervalue himself than he has to consider it such to undervalue others. But we are continually exhorted that while we are to be ever on the alert to discover the excellencies of our fellow-creatures, we are nevertheless systematically to blind our mental eyes to our own. Than this principle, which is really the ultimate of all the current teaching on the subject of modesty, nothing more monstrous or sophistical could be propounded in the name of moral philosophy. Deception is denounced as a contemptible vice, yet when it is thus practised upon ourselves, it is exalted into a virtue. Where is the logical consistency or real morality of such ethics? It follows from them that it is incumbent upon a man who, by any superior qualities which he possesses, stands higher than the generality of his fellows, to constitute himself, in effect, either a hypocrite—that is a deceiver of others—or a self-deceiver. If he does not think depreciatorily of himself as compared with those around him, he must, nevertheless, according to this common cant about modesty, try and appear to do so ; he must assume a humility he does not possess, in which case he is a hypocrite and a deceiver of others ; or, on the other hand, if he does think humbly of himself in comparison with them, he is a self-deceiver.

This is the logical *cul de sac* into which those who, confounding true modesty with self-depreciation, preach the latter, are inevitably driven, and I challenge them to extricate themselves from it. Regard for truth, I repeat, should be

our paramount consideration in all things, and as much so in the appraisement of ourselves as in any other matter. Therefore, while I certainly admit and urge that it is the duty of the man of moderate parts and attainments to endeavour to estimate himself correspondingly to them, yet I emphatically repudiate the doctrine that it is any part of the moral duty of a man of superior ability and education to endeavour to imagine himself any less mentally endowed than he is. And I contend, moreover, that, on the contrary, it is his right and his duty to cultivate a full consciousness of his own merits, and further, that he has the clearest right to assert the superiority which he feels he possesses, provided that he asserts it in order to command due respect from mankind, and not superfluously, offensively, or arrogantly. He has a birthright to the consideration and homage of his fellow-creatures. His right is not prescriptive; it is not arbitrary or dependent upon any conditions; it is indefeasible, and in the essentiality of things, and the deference paid to him by others ought not to be considered a concession, or his claim to it an exaction.

An illustrious man, whose fame has penetrated wherever civilization exists, whose praises are sounded by every tongue, must, nevertheless, by the false moral canons about modesty which are imposed upon us, give the lie to the whole world, and tell it that it is utterly mistaken in its estimate of him: that he is nothing like so great a man as it supposes him. And yet, if he conscientiously says so, is he not, in imagining that he is better able than all mankind to understand his own worth, guilty of far greater conceit than if he, as of imperial right, calmly and naturally assumed the position which has been allotted to him by universal suffrage? For my part, serious doubts present themselves as to the genuineness of the motive which prompts all this railing at the exercise of self-esteem. My experience has taught me that those who are the readiest to accuse others of too high self-estimation are invariably, or almost invariably, the most conceited people themselves. Those who are most annoyed at conceit, as they call it, in others, are those who have themselves a superabundance of the self-estimatory element; and it is because of that excess, because of the very absence of modesty in themselves, and not from any abstract admiration of that quality as a virtue, that they most decry conceit in others. It is because they are so conceited themselves, and cannot endure that any one should permit himself for a moment to suppose that he is better than, or—I might say with quite as much truth as far as some of them are concerned—equal to them-

selves, that a great number of men are found so loudly extolling modesty, and disparaging any display of self-esteem beyond that amount which causes us to dress decently, to keep out of brawls, or to avoid becoming drunkards or debauchees. Conceited men of moderate calibre know that the more humble and reserved others are, the more chance there is for such pretentious and mediocre individuals as they to obtrude themselves upon public attention. And in proportion to their own incapacity is the strength of their desire that the ability of others should remain concealed, since upon its concealment depends largely the credit of mediocrity with the multitude. Well may modesty be popular with conceited but common-place men. They desire others to practise it voluntarily that they themselves may not have to practise it compulsorily.

A great deal has been said about humility being a virtue strongly inculcated, both in practice and in precept, by Christ. But Christ never taught that a man should cultivate systematic self-depreciation. The humility he enjoined and exemplified was the humility of not thinking too highly of ourselves, not that of thinking ourselves less meritorious than we are. No man ever showed greater consciousness of the possession of uncommon powers than did that adorable being. His riding into Jerusalem upon an ass has been cited as proof of his extreme humility. It has, on the other hand, been asserted that there was no condescension exhibited in this act, as it was only in accordance with the manner in which the highest potentates of oriental countries customarily made their public entries to the places they visited. But, assuming that he did so enter Jerusalem, and that this manner of doing so was an unusually humble one, the fact does not indicate any under-estimation of himself. It would rather argue a great and noble mind which was so conscious of its own intrinsic glory and majesty, so permeated with that highest of self-esteem which pertains to true greatness, that he felt himself independent of that external pomp and display upon which mortals of meaner capacity must rely for impressing the minds of those over whom they seek to obtain ascendancy.

The disputation of Christ, when a child of twelve, with the learned doctors of Judea, surely ought to be accepted as denoting a realisation by himself of his own great capacities, which is utterly inconsistent with any inculcation by him of the self-depreciatory modesty so much commended at the present day. His parable about the man who buried the talents entrusted to him, his injunction to us not to hide our lights under a bushel, are clear admonitions to us that it is

our duty not to conceal, from any feeling of modesty, our abilities, but to use them, and display them to the world to the utmost advantage. To carry out this precept thoroughly, it is necessary that the man to whom it applies should have the fullest recognition of his own mental capabilities ; and to give them that practical effect which makes them serviceable to his fellow-mortals, he must show that he has perfect confidence in those capabilities. And had not Christ himself possessed this confidence, he would never have obtained the influence over the minds of men that he did.

People are continually giving expression to their admiration for what they are pleased to call modesty, but by which they, in reality, as I have already said, mean self-depreciation ; and yet these very people will be heard sometimes to eulogise, in the same breath, self-confidence—a quality totally incompatible with the other. The child at school is taught this false modesty perpetually ; and yet when it has a hard task to perform, it is enjoined to have confidence in its own abilities to perform it. How can the child have that confidence if, in accordance with the former teaching which runs so parallel to the latter, it has accustomed itself to think meanly of its own abilities ? And what an absurdity to teach a child to cherish such an opinion of its intellectual powers before those powers are developed, before anybody can possibly know whether they are great or small ! And then, what is the result of such teaching ? It is my firm conviction that it has been one of the greatest obstructions to the development of true morality, true manliness and nobleness in the human character ; that it has been one of the chief hindrances to the advancement of mankind in all that pertains to his highest happiness. What sort of children does such teaching produce ? Pretty creatures they are indeed ! Docile, obedient, plastic automata, to be sure ! Good in a sense, but in what sense ? In that of having a sort of mechanical, passive, negative goodness ; but they are poor, dull, listless, spiritless beings, so thoroughly broken in to that yoke of mental self-subordination which they have been so sedulously trained to bear, that after they spring up into men and women they can never thoroughly throw it off, but all through life bear painful testimony that the iron has entered into their souls. Their self-esteem, and with it that enthusiasm which to the heart and mind is as electricity to the atmosphere, serving to keep them pure ; that buoyancy and confidence of youth that would have matured into the noble pride and lofty independence of character which are among the surest safeguards of morality, have been systematically drilled out of them. As a consequence, a state of mind

has been brought about which is a fitting soil for the growth of the weeds of superstition, of the suppression of reason, of religious bigotry, and of slavish homage to wealth, and power, and tradition, and the multifarious fashion-consecrated abuses and follies of the age.

The preaching down of the principle of self-esteem, of the realisation by men of their individual importance in the great system of humanity, has, in my opinion, been largely responsible for the wars with which the world has been cursed. Men have been taught to regard themselves not as each of individual value, but as of value only, as it were, in the mass ; and sovereigns and military adventurers, aided by their priestly abettors, have hence found men ready tools for engaging in their warlike enterprises, in which single lives were counted as nothing amongst myriads. The comparative loss of the sense of the individual preciousness of human life has been one of the results of this pernicious teaching of the depreciation of ourselves, this denial of our right to stand up like men and assert our own absolute and inherent worth as and for what we are in ourselves alone, as contra-distinguished from our mere relative value as fractional parts of a community. Another result is the hesitancy in the expression of individual opinion, and another still is the want of deference to that opinion. So thoroughly has the teaching of ages sapped our belief in our own private worth, that men now, for the most part, have not the courage to stand forth and enunciate doctrines contrary to those of the mass, even though convinced of the truth of their views ; and most of those that have, advance them in such a timid, apologetic way, as to make one blush for the cause so advocated, and sigh over the deterioration of manhood exhibited in the pitiful spectacle. Swedenborg speaks of the inhabitants of the spirit-world being unable to utter propositions in which they do not believe. The difficulty with men, in this sphere, seems to be, in many cases, the utterance of those in which they do believe. A man apologises, and refers, and qualifies, as if truth were an abnormal, eccentric thing, which, because unfashionable, because unpopular, ought to be submitted with shame-facedness, and haltingness of speech, and whiningness of tone, whereas it is the truth itself that is the original, inherent centre, and those to whom he addresses himself, who have departed from it, who are the eccentricities ; and it is his duty to rebuke them with stern, uncompromising promptness, and in electrifying tone to appeal to their souls within them, and say to their prejudices, "Come out of them," as Christ said to the devils which he drove out of the possessed ones into

the Gadarean swine, instead of mewling, and puling, and praying, and suing "with bated breath, and whispering humbleness," before those to whom he should come, as it were, as a very emissary of Jove, armed with the lightnings and thunders of moral truth.

The general, whose voice quavered in battle, whose accents did not sound out clear and high like the trumpet blast, urging his troops to victory, would be of but little avail in exhorting his soldiers to material heroism. How, then, can a man who, like many of our preachers of the present day, adopts the tame, temporising, apologetical style of depreciation of that which should excite him to the most passionate denunciation, hope to stir up his fellow-creatures to moral heroism ? But it is this false modesty, this fear lest he should be considered presumptuous in setting himself up as a rebuker of the multitude, which, where dread of other consequence of telling the truth is not the deterrent, prevents him from saying what his inmost conviction, his highest sense of duty, prompt him to say. And this same misnamed modesty acts with equal force in deterring a man from advocating new ideas and plans for the moral and material improvement of mankind. He is afraid, where the fear of being thought crazy is not the restraint that holds him in check, of it being supposed that he pretends to be a teacher of the people. Or, if he does venture to appear in the character of an agitator for moral or material reform, this modesty in ninety-nine cases out of a hundred, makes him, as I have said before, such an inadequate champion of his cause that he reaches not the hearts or the minds of those he appeals to.

The destruction of confidence in our individual opinions, which has been brought about by the everlasting indoctrination into us of this principle of self-depreciation has, too, as I said, occasioned a want of deference to private opinion. A man taught to believe himself a mere fraction in a mass in the opinions of which his own must be merged readily begins indiscriminately to accept the dictum of the multitude in preference to that of individuals, or even that of his own common-sense, his own instinct. The voice of the people is declared in grandiloquent cant to be the voice of God —though if it were so always what a capricious being God would be!—and thus the principle of might against right is glorified in disguise, and the coarse preaching of admiration of a sort of brute force, of respect for opinion merely because it has numbers on its side, is instituted. But the Divinity does not speak through whole peoples, but through individuals to whole peoples ; it speaks through such

men as Carlyle and Ruskin to-day, and yet their individual utterances are comparatively unheeded amidst the din of the babbling multitude. Why? Because the importance of individual opinion has not been realised; because its force, though that of divine truth in the case of men like these, is not felt, since they stand isolated from the crowd and are but as voices crying in the wilderness. And even when we deign to listen to them it is in some such sort as the worldly father listens to the pure prattle of his innocent child, calling it refreshing amidst the unrealities and conventionalities of life, yet treating it but as the prattle of a child, nevertheless, and proceeding on his way unaltered. And if the solitary utterances of even the mightiest minds exercise as little effect, how much less must be exercised by those of minor individuals who stand by themselves in their contrariety to the million? They are simply swamped beneath the swelling waves of public opinion.

The Divine-voiced people, as they are called, reject their testimony and ostracise them, as it were, as traitors to the multitude, because they are true to themselves. A number of individuals acting separately for a common end, however laudable that end may be, produce comparatively little impression; but let them act with united force, and the law which applies in mechanics applies also in morals; their object is accomplished. Yet if due deference were paid to individual opinion, the redress of a wrong, the institution of a reform, would take place quite as soon in consequence of the proof of its necessity by one man as of its being clamoured for by millions. This indisposition of the executive powers to remedy defective conditions in civil and social polity without a great popular agitation is one of the coarse and base characteristics of the age; it reduces the remedying of evils to a question not of conviction of error, but of compulsion. It involves the hateful but inevitable supposition that right would not be done if it were not enforced. And yet this is the result of the depraved idea of the unimportance of the individual man, which is the natural sequence of the doctrine of self-depreciation. It is to re-establish the individual man on the pinnacle from which he has been pulled down that I take up my pen to write this article.

J. G. SPEED.

(To be continued.)

SWEDENBORG says "words are things." They are more; they are spiritual forces—angels of blessing or of cursing. Uttered we control them; unuttered they control us.

SELF-KNOWLEDGE.

A CORRECT *knowledge* of ourselves is a true basis to start upon, and leads to a correct *estimation* of ourselves. Without that knowledge men are liable to overrate themselves or underrate their powers of body and mind.

All knowledge is useful, but to know ourselves in every respect is to know our grade and stand-point, our bodily and mental powers, our strength and weakness, our mission in this world, our sphere of labour, our relations and duties to others, our duties and obligations to ourselves, how much and what to eat and drink, how much to work and study, how much of retirement and company is necessary, how to select a companion, how to train a family, how to get through life; in short, how to live, and how to die! This constitutes the essence of self-knowledge.

Phrenology and physiology help us to much of this knowledge. They open a book from which we can read what we cannot gather from any other book about ourselves.

Three kingdoms help to compose man's physical structure—the mineral, vegetable, and animal—and minister to his physical, intellectual, and moral constitution. Man is a part of every science, and the whole of some. To know him thoroughly we need to know the sciences, histories, and languages of the world, as well as to understand his organs and functions.

Man partakes of all that is below him and aspires to all that is above him. In a finite sense, he is composed of all that is on earth, and has the qualities, when purified, to aspire to be and to enjoy all that is above. In an unperverted state he represents both earth and heaven. He starts out as a newly-organized material and spiritual, mortal and immortal, being.

Man's mind sustains three important relations: First to the body, second to the physical world, thirdly to the spiritual world. Man is composed of opposing mental forces—tendencies to do good and to do bad. We change from one condition to the other. He has upward and downward tendencies.

Man is composed of many individual wants and capacities. His first efforts should be to harmonize the elements of his own nature; then to harmonize himself with the external world and with society; finally, to harmonize his nature with the requirements of his Creator, and the laws and principles He has established.

Many persons have some faculties they can use better than

others ; those should be their trump-cards to play the game of life with. If it is making money, then make it ; only make it honestly. If it is spending money, then spend it ; only spend it wisely. If it is talking, then talk sense. If it is scholarship, then study. If it is work, then work to the best advantage. If it is to preach, then do it in earnest, and not merely as a trade. But there is something more wanting than a favourable organization to be a successful preacher. If you cannot succeed in the use of your best gifts, you certainly cannot expect to in the use of your poorest. Many are spell-bound, and not at liberty to do what they have the talent for.

Ignorance of one's self keeps more in the back-ground than circumstances or poverty. Some minds, at the age of twenty-one, have not grown enough to know their value or powers. Some are afraid to go forward and do something new for fear of a failure.

Some are so imperfectly organized that they are not able to manage for themselves, be their own masters, or take any responsible situation. Such should be content with a situation suited to their limited capacities.

Mind, with right culture, can be enlarged, elevated, refined, strengthened, and made more active and available, and one faculty more than another. Uncultivated minds take uncultivated views of subjects. Small minds take small or contracted views of subjects. Large minds take comprehensive views of subjects. Low, vulgar minds take low, coarse views of subjects. Pure and elevated minds will see things in that light. This is the reason why some have so low a standard of virtue, and have such loose ideas about religion, and limited ideas of God and His government, and why others are striving to be more God-like.

We need to know how to keep good health, and how to regain it when lost. Many are unfit for the labours of life because they destroy health the first thing, like a man who throws away what little capital he has before he goes into business, and then wonders why he does not succeed.

Those who know themselves thoroughly are more apt to have a special object in view, and labour to accomplish it. They are building a monument for themselves in what they do, and manage to have some bold points, strong outlines, distinct acts that will make an impression on the public mind that is not easily forgotten.

There are many kinds of monuments to represent different meritorious acts. Different classes of men build monuments to themselves according to what they do.

There are culminating acts and moments of time in the
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lives of most people. Sometimes the word *no* or *yes* fixes a man's destiny for life, if not longer. Our trade, profession, company, motives for actions, our habits, or our marriage are culminating acts or moments. There are culminating actions in the lives of persons and nations. The life of the old world culminated in the birth of Noah—the first preacher of one God—and his life culminated in the birth of Isaac, and Isaac's in the birth of Esau and Jacob; and Lot in the fathership of the Moabites and the Ammonites. Jacob's life culminated in being the father of twelve sons, who were the beginning of the Jewish nation. The Jewish nation culminated in giving to the world a Jesus Christ; and his life culminated in making God manifest in the flesh. The Roman nation culminated in destroying the Jewish nation, in giving laws to the world, and in making Christianity take the place of Paganism.

The Egyptian nation culminated in the purchase of Joseph, in sparing the life of Moses, in giving a home to the infant nation of the Jews, and in leaving behind monuments of letters, art, skill, energy, and perseverance. The actions of Joseph's brethren culminated in selling Joseph into Egypt; and that of Joseph in refusing the invitations of Potiphar's wife.

The aristocracy and bigotry of England culminated in persecuting and driving to America some of its best men and blood, who established a Republic that it is to be hoped will be the light of the world—the hope and the stimulant to the down-trodden of all nations.

Slavery in America culminated in a rebellion and civil war, which was the means of setting at liberty four million slaves, and thereby not only setting an example to all other slaveholding countries, but it has emancipated a warm blood which when blended with the Caucasian blood will give new life to the nation. The life of Abraham Lincoln culminated in signing the Emancipation document. The life of W. Booth culminated in shooting President Lincoln.

The culmination of the life and destiny of many a young man is the first object he loves: His first glass of wine with a beautiful young lady; his first resolution either kept or broken; signing the pledge, and keeping or breaking it; the company he keeps; the habits he forms; the business he pursues.

As children are, so men, women, and nations. Very much depends upon starting right. Parents need to know more than anybody else, for posterity is in their hands, and they have to deal with first principles; and as children are, so is the nation. When the foundation work is well done,

the remainder is more easily accomplished. Poor stock is bad stock to work on where perfection is desired.

Young women, by knowing themselves, can more easily find their places and their mates—or live more independently without them. It should not be necessary for women to marry to be supported—many are sacrificed in that way. Ignorance of one's self is liable to lead ambitious women into artificial ways and habits of life. The external is cared for more than the internal. She will not marry a man she does not love simply to please him, or to be supported by him. She will not prostitute herself, and run the risk of sacrificing posterity, as well as her own health and happiness, merely to accommodate herself to some one else. If man is the lord of creation, woman is queen of creation, and has personal rights as well as man.

When woman understands that to become a mother of a healthy child with a perfect mind is her highest mission on earth, she will be very careful not to disqualify herself by fashions in dress and artificial modes of living or imprudences of any kind. She will be more careful whom she marries, and will take more care to comply with conditions necessary to fulfil her mission.

When men know their constitutions they will not work hard all day, and then study and read till twelve o'clock, or dissipate till midnight or later, and then try to sleep. Such men break down prematurely, and make many mistakes, and mismanage their business. Many exhaust their strength trying to do a thing before they think how to do it. Persons who know themselves thoroughly will not be so liable to poison their blood by wrong eating and drinking, to weaken their constitutions by overwork or dissipation, or to poison their minds by immoralities and bad associations. They will also be more careful what influence they exert over others.

Some know themselves in part, but not as a whole. Some know their most favourable qualities best; others are most conscious of their unfavourable qualities. We should learn to know our strength and our weaknesses alike. Small Self-esteem allows us to underrate ourselves, and large Self-esteem to overrate ourselves.

A thorough knowledge of ourselves helps us to form a more important and correct opinion of ourselves than when we are quite ignorant of our powers. Having a good opinion of ourselves is one thing; being good is quite another thing. Knowledge does not necessarily make us good, but greatly aids us. Seek to know all about yourselves mentally and physically, so as to make the most of your existence. Learn

as much about the earth you live on, and the heavens that surround you, as possible. A knowledge of creation introduces us to the Creator ; which knowledge, in proportion as it is perfect, is the climax of all knowledge and gives the greatest satisfaction.

L. N. F.

THE PSYCHOLOGICAL BASIS OF RELIGION.

THE SCIENTISTS AS RELATED TO THE QUESTION.

Although the issue might well be rested on the purely historical and physiological grounds that have occupied attention thus far, the modern literature of the conflict has developed certain adventitious aspects that call for special consideration. The various questions raised by Huxley and Tyndall, Spencer and Darwin, call for a brief review, premising that there is no necessary antagonism between the hypothesis of evolution and the primary conceptions of religion, even with the addition of Darwin's striking appendix on the descent of man. The antagonism, so far as it exists, is between the assumption of an endless series of uniformities, pervading all departments of nature, and invading the intellectual life itself, and the idea of the supernatural as having an actual existence ; and here, as elsewhere, the antagonism that arises is strictly the exponent of that primary distinction that subsists between the activity of the anterior brain, with its necessary forms of consciousness, and that of the superior brain, with its intuitions. Whether Tyndall's definition of matter prevails or not, is a very subordinate question. Matter has been hitherto only the name of an inert substratum through which force becomes objective ; spirit a name for that being in which our lives are imbedded. The presumption involved in Tyndall's view, which has eventuated in a volume of discussion in inverse ratio to its importance, is that molecular force is not only structural, but is the very potency that exhibits itself in life —the substratum of all vital and mental activity. There is nothing new in this view. Huxley very distinctly affirms it in his paper on the physical basis of life, first published in the *Fortnightly Review*, volume for 1869, and has since repeatedly affirmed it, while personally disclaiming all sympathy with Materialism, considered as a philosophical system. His view is, that in the sciences it is advisable as far as possible to adopt purely material symbols ; and to this view, within proper limits, all thoughtful men will heartily subscribe. Hence, he prefers molecular forces to vital forces. On the

other hand, while, as appealing more distinctly to the understanding, the material terminology is better adapted to the purposes of scientific investigation, Huxley and Tyndall are as well aware of the irresolvable dilemma that nothing is known of matter except as perceived by mind, and nothing of mind except as exhibited through matter, as the transcendental thinker, Berkeley, was. In other words, all that is known scientifically of matter or force resolves itself into states of consciousness. Familiar to the senses as light is, no definition of it can possibly be attempted, except by reference to the transcendental reality that underlies all phenomena. Heat, electricity, magnetism, actinism, and so on through the list of forces, finally resolve themselves into molecular force, which, in modern science, corresponds very nearly to the odic force of the great German experimentalist whose contributions to molecular physics startled the world thirty years since. All that is known of them is that they are the exponents of certain molecular transformations, and that they act on matter in a state of equilibrium to produce certain molecular phenomena. They are symbols for one and the same indestructible energy that—

“Warms in the light, refreshes in the breeze,
Glowes in the stars and blossoms in the trees :
Lives through all life, extends through all extent,
Spreads undivided, operates unspent.”

That is to say, no given amount of this primitive force, in any of its various forms, is ever really expended, and that which seems to be so is only transformed from one form to another. Heat has its equivalent in light, in electricity, in motion, and so on through the list, each force having its equivalent in every other. In mental phenomena, for example, the act of thinking develops cerebral heat as its most immediate physical exponent. Electricity and magnetism are also the exponents of vital transformations going on in the tissues ; but, so far from evidence appearing that they are the *agenda* of those transformations, they are to be regarded rather as incidental products of them. Thus, one by one all theories explaining the vital and psychical activities as having their etiology in any of the known forces have given way. It is conceded now, on all hands, that I can voluntarily direct my thinking to any particular subject, and that such thinking is accompanied with molecular transformations in the cerebral tissue, which develop heat and electricity as secondary products. Again, although the contraction of the muscle in motor action has generally been regarded as an electrical phenomenon, there are strong grounds for

believing that muscular contracility is a transformation and agglutination on a larger scale of the primitive contracility of simple protoplasmic tissue, and that here, as elsewhere, the electrical phenomena are secondary products. To say the least, Dr. Brown-Sequard over-states the case when he regards muscular motion as a transformation of nervous force, for muscular contraction is an inherent activity of muscular tissue and of many other forms of tissue. It comes then to this, that our psychical activities are correlated with our vital and physical, and our vital and physical with our psychical; and that they have a mutual dependence and interpenetration; but that neither can be regarded as identifiable with the other.

As a consequence, in studying the phenomenon of innervation, it is preferable to regard that activity as the specific organic and molecular influence of nervous tissue; and similarly, again, in the phenomena ascribed to nerve-aura, the physiologist is justified in defining it as the specific molecular influence of nervous tissue; but neither definition should be understood as presuming to exclude the higher spiritual activities from the life of the nervous system. In point of fact, the physicist who employs the term atomicity is quite aware that the atom is a mere abstract hypothetical unit of extension, and that a molecule is merely a molecular centre, the form of which, as extension, is wholly contingent on the equilibration of force or forces; but it would be very tedious and unsatisfactory to burden our terminology with continual references to these primary ideas.

THE PHILOSOPHY OF FORCES

amounts, however, to this, that all known forces are resolvable into molecular force, and that molecular force is the ultimate link between subject and object, mind and matter—the structural and organizing energy of natural phenomena, the source of all law in Nature, correlated into psychic activities, on the one hand, and into physical activities on the other. From its tendency to equilibrate itself in centres comes, in the first place, extension, then world-building. In a word, this known primitive law of molecular force, the tendency to individuation, lies at the very basis of all the phenomena of nature, and is alike competent to explain the building of a solar system and of a group of organisms. But this is only proximate. Ultimately, the science of transcendental physics merges at all points into transcendental idealism, as the only possible rational explanation of molecular phenomena.

Observe, then, my dilemma. I can give no definition (idea) of matter except in the terms of mind, and I can give

no definition (idea) of spirit except according to material symbols. I can not rationally think of matter except as idea, and I can only think of mind as an unknown substratum of idea ; so that the moment that I take leave of bricks and mortar, and commence to inquire what matter really is, I pass into transcendental physics, and then into transcendental idealism. Abstract the idea of force from matter, and it is nothing ; abstract the idea of matter from force, and it ceases to be conceivable. The Unconditioned of Sir William Hamilton, the Unknowable of Herbert Spencer, the Formative Intelligence of Mr. Murphy, the ideas of Plato, and the *anima mundi* of Hegel—what are they all, but so many symbols of the fact that human nature instinctively conceives an infinite as eternally causing phenomena, and can not by any process of ratiocination divest itself of that spectre ? A true science of psychology accepts this conception as having its root in the nature of life, and leaves the barren problem of how it is to be solved as man becomes more and more conscious of what is really within him. Viewed in its proper light, the unity and equivalence of forces decidedly contributes to the materials for the resolution of the problem ; but it would be very unsafe to burden it with any premature theorizing, further than this, that it furnishes the long-sought-for link between material phenomena and the philosophical conception of ideas, as forces having their origin in the essential nature of being.

THE PROBLEM OF LIFE.

But the more important question that lies at the basis of reconciliation is, What shall be the definition of life ? Aristotle says, " Life is a nourishing, growth, and decay, through self." Kant says, " An organism is that in which all is aim and reciprocally also means. Hegel says, " Life is a means, not for something else, but for the idea of life, and continually reproduces its infinite form." Herbert Spencer, omitting the notion of self, regards it " as the continuous adjustment of internal relations to external relations." De Candolle, from the exclusive standpoint of physiology, says, " Life is the transformation of physical motion into nervous motion." "*L'ensemble des functions qui résistent à la mort,*" is the very negative definition of the father of modern biology ; while Schelling, the idealist, regards it " as the tendency to individuation." Huxley, if I rightly understand him in his paper on Protoplasm, considers the *vis essentialis* of life as synonymous with molecular force.

It is unnecessary to waste words with any of these defini-

tions, since all of them express some aspect of life or some condition under which it exists. The main question has been, with Herbert Spencer and his admirers, to offer some definition in harmony with the system of psychology that regards self-consciousness as a fiction. The unquestionable fact that consciousness is limited to a special tract of the brain is fatal to the system of psychology adopted by Spencer, and from this aspect, therefore, his definition is of no consequence. That there is a self in consciousness, beyond a question, is demonstrated by facts of cerebral structure and function. Nay, the idea of self lies at the very basis of life, in the process of nutrition, in the evolution of the cell from amorphous protoplasm, in the structure of the nervous system, in all its activities from the highest to the lowest. Again, investigations into the process of tissue-building have shown that one primordial tissue is the physical basis of life. That tissue is protoplasm, always of the same general material constitution, whether in plant or animal, in nervous or epithelial tissue, although exhibiting the widest divergencies in internal culture. This fact is important as showing that life is one throughout organic nature, and presents itself as having a perfect unity of dynamic properties, together with a progress of internal culture, from vital to instinctive phenomena, and from instinctive to intellectual and emotional. But the cells in the brain of man and those in the brain of an oyster are alike primitive protoplasmic cells; their difference is one of internal culture. The consequence of modern investigation with the microscope is thus to force physicists to adopt more transcendental views of what life is than were fashionable when Spencer wrote his "Principles of Biology"; and these more transcendental views carry with them the notion of a self-activity, as the primary attribute of living tissue, tending to self-consciousness as the scale of organism is ascended; so that, in view of the known facts, it would not be far out of the way, particularly from Tyndall's point of view, to state that *life is the tendency of the material toward the spiritual, through self-activity.* Or, from the ideal standpoint, it is force, through self-consciousness, realizing itself as spiritual. This definition is perfectly justified by the facts of biology; and it is because our lives are being realizing itself in consciousness that the great and fundamental doctrines of religion have their basis in primary intuitions and in structure itself, not in laboured systems of ratiocination; and may be safely trusted, though their processes are not always apprehensible to the understanding.

FRANCIS G. FAIRFIELD.

INFANT FEEDING IN SUMMER.

A RECENT article in the *American Journal of Obstetrics* by Dr. Little, of Rochester, has attracted considerable attention among physicians. It is hardly necessary to point out that a great waste of infant life is annually taking place, especially in our large cities. It is a veritable slaughter of the innocents, more terrible, more cruel than that of Herod. And it goes on among us year after year.

To what is it chiefly due?

How far is it preventable?

These are questions that are naturally asked. Dr. Little names three causes which, acting together, are most largely accountable for these premature deaths.

1. Life in great cities and towns.
2. Summer heat.
3. Artificial food.

At a glance, we can see that in many cases some of these causes cannot be prevented. Country life is more healthful for children than residence in a city; but the vast majority of working people who are parents, *must* live where their work happens to be. Summer heat is unavoidable. So also in most cases where it occurs, is artificial feeding. Here, then, are three great agencies tending to destroy life.

What is the best method of meeting the difficulty? Dr. Little believes that *over-feeding* is one great factor in the production of infant mortality. It is far easier he thinks to guard against wrong or improper food. He says:—

“Over-feeding, it seems to me in military parlance, is the key to the position. This, in my belief, is the bane of bottle-fed children.

Look at it. The doctor is called to a case of summer diarrhoea. He prescribes, and leaves instructions as to what food to give, and how often, and adds, “keep the child well aired, clean, cool, and quiet,” and goes on his way, thinking he has been specific enough.

Now, what does this child’s attendant do? That last injunction about keeping the child quiet makes a major impression, because this same quiet consorts with her own comfort. The child cries, and must be comforted, and the ready bottle is its comforter. Through the day that other injunction about feeding only so often, acts in a measure as a deterrent; but the long night comes, and the tired nurse or mother needs quiet too, and now the bottle becomes a duplex comforter. Filled and re-filled it is kept to the child’s lips.

A stomach that has no rest gives up, or gives out.

A fundamental principle in the treatment of disorder of any organ is to give it a rest. In the case of digestive misdemeanors nothing is so effective as to starve the offending viscera into good behaviour. And this plan, at first thought so abhorrent to the fond mother, or indulgent or indolent nurse, may be made feasible by a simple explanation. Tell her the child cries more from thirst than from hunger, that his wail, like the wail of the ancient mariner, is "water, water everywhere, and not a drop to drink." Lay down inflexible rules about amount of food and times for feeding, but give her *carte blanche* to water the infant as often as it cries. Tell her that hot weather induces perspiration, and as surely and in the same way, as waste makes want, sweating makes thirst.

This sounds plausible, but the doctor of to-day is a sceptic, and wants evidence. My experience is limited, and my figures are few, but it is believed that they are significant if not convincing.

For twenty-one years I have been a physician to the Rochester Orphan Asylum. Each of these years I had witnessed deaths from enteric diseases until 1882.

In the early summer of that year I said to the matron, "Feed your babies but once in three hours during the day, but give them water to drink as often as they will take it."

The summer came and went, and when frosts appeared I congratulated her on the good results of our plan; not a child had died, and no serious case of diarrhoea had occurred.

"Yes," said she, "but it seemed cruel to feed these babies but three times a day."

She had actually carried out my instructions to the letter, as she had misunderstood them. Instead of once in three hours, she thought I had said three times a day!

On the following (that is, last) summer the plan was carried out, giving the infants food once in three or four hours, according to age, during the day, and an additional meal in the night, if the child awoke, and would not be quieted with a simple drink of water.

The same immunity from summer complaints ensued as in the previous year, with two exceptions, and these exceptions emphatically proved the rule.

They were children of tubercular parents, and because of scrofulous manifestations were removed to the hospital, then empty, in the upper story of the building. A nurse was detailed from the hired help. Soon these infants became dyspeptic, intractable gastro-enteritis followed, and in a few days they died.

Inquiry elicited the fact that the newly-made nurse had kept a bottle every night, and all night, in their mouths, for, as she declared, she could have no peace without it. In legal parlance, it is submitted that a case is made. That is, that rest for the stomach may be obtained by recognising thirst more than hunger as a summer want, and thus, by prolonging the intervals of feeding, preventing indigestion and its deadly train of attendants."

TRANSCENDENTAL FACULTIES IN MAN.

THE *Rochdale Times* gives a verbatim report of a long lecture by a Mr. Peter Lee before the Rochdale Field Naturalists' Society. Mr. Lee in the course of his address said :—" We are justified, I think, in inferring the possibility and the great probability that we ourselves, by a process of nature, are imperceptibly developing that subtle principle called spirit, which shall survive in a condition suitable to its manifestation. Should any one be bold enough to declare this an impossibility, then I fall back upon psychological experiments, which have proved beyond the shadow of a doubt to those who have successfully conducted them that there is something more in man than his five ordinary senses. It is now too late to deny that there are those known as clairvoyants and somnambules. Experiments made by mesmerists—and it is too late now to deny there is such a science as mesmerism or animal magnetism—prove that these persons can under certain abnormal conditions either see thousands of miles through solid matter, or travel, as they affirm, enveloped in a condition other than matter. It is perfectly useless, however strange it may seem, to deny what I now affirm, because I speak from actual knowledge gained from personal experiment. My experience agrees with what I have read and also with that of other living witnesses with whom I have come in contact. I take another standpoint here, and affirm there is no death, because I have proved the possibility of an abnormal as well as the normal manifestations of the life principle ; that is to say, a lady in Rochdale, in an abnormal condition, has accurately described existent facts at Sowerby Bridge, of which she had not the slightest knowledge in her normal condition. When asked to account for this, she described herself as having left her body—her sentient self being in Sowerby Bridge whilst a vital connection was maintained with physical organism at Rochdale. A similar description has been given

by a lady—Madame Saumer, I think, by name, at Paris, when describing existent facts in Sweden, of which she had not a normal knowledge. All this may seem a digression from the subject, but it is not, for facts like these open up to us an unexplored sphere wherein shall probably be demonstrated man's immortality. To waste any part of the universe is an impossibility, to annihilate any part is equally impossible. This being so as regards the physical entities, the same rule must hold good of metaphysical principles. The thoughts of Demosthenes and Cicero and of other philosophers who lived before them are living principles in the minds of many men at the present day; and shall we say the substance is dead and the shadow is the living reality? Nay, not one whit more than we say water has no existence because it has evaporated and gone from our sight. It is inconceivable that the outcome of immutable law can have any retrocession. Life being an ever present, universal, and indestructible principle, intelligence also being the concomitant of life wherever manifested, it follows that neither can have an end. Two bodies of equal bulk cannot occupy the same place at one time, but as one body gives place another may take it, so there is nothing absurd in affirming that as the substance through which life and intelligence are manifested returns to the bulk from whence it was built up, so another entity unseen to mortal eye may take its place. Nature maintains her own equilibrium; therefore if it were possible that one life could be abstracted from the universe, this principle could not hold. What, then, must be the conclusion? As there cannot be any exceptions in universal principles, there cannot be any death, the principle of life being infinite, indestructible, and eternal."

MAGNETISM, OR WHAT?

FOR some time past the people of the United States have been much exercised about a new wonder.

Whatever may be the source of the curious powers displayed by Miss Lulu Hurst, who is advertised as "The Georgia Wonder" and "The Phenomenon of the Nineteenth Century," this young woman certainly has succeeded in entertaining and interesting large crowds of people nightly during her stay in New York. Her novel performances on the stage of Wallack's Theatre have broken the dead calm which at this season prevails on the vast ocean of city amusements. All the town has gone, in a mood more sceptical than otherwise,

to form an opinion of its own as to the means by which this rosy, giggling, and seemingly unsophisticated country girl contrives to outwrestle athletes, outwit scientists, and outstrip trained actresses in that practical drawing power which attracts the shy and elusive dollar to the box-office. The real amusement at these exhibitions is furnished by the spectators themselves. Actors, newspaper men, physicians, athletes and "cranks" all are there, and the elegant brigade of idlers and men about town would not think of being absent. As a great many of these persons take an active—often a violent—part in the doings on the stage, while the whole house amuses itself with "guying," the fun grows at times fast and furious. The newspapers have discussed the proceedings with great interest, and the topic has attracted universal attention.

Miss Hurst is a large, plump, muscular young woman of nineteen, with a pleasing face and a luxuriant "bang." Her manner is quiet and unassuming. She asserts that her peculiar power, of which she first became aware less than a year ago, is as much a mystery to herself as to others. She disclaims any extraordinary muscular power, and the feats which she performs are somewhat vaguely attributed by her father and her managers to "psychic force."

Miss Hurst's public performances consist of perhaps half-a-dozen different acts, which apparently are never varied in any essential particular. By placing the palm of her hand upon the handle of an open umbrella grasped with both hands by a gentleman from the audience, she causes it to twist and whirl violently, until, in spite of the resistance of the holder, it is turned inside out, and falls a wreck to the stage. She pushes strong men about with irresistible force by pressing her open hand against a stout cane held horizontally by them with both hands. She lays her hands upon a chair, held tightly in the arms of whoever desires to try the experiment, and causes it to jerk upwards and from side to side until chair and man are thrown with a crash to the floor. Miss Hurst herself then raises the chair in her hands, and as many men as can seize hold of it strive in vain to push it to the floor, or to prevent themselves from being dragged and shoved about. Men of abnormal avoirdupois plant themselves solidly in chairs, and are unceremoniously upset by the white hands of "the Wonder," who laughs heartily, and does not appear a bit fatigued. Three or four men struggle to push down one end of a billiard cue which she holds horizontally in her hands, but find the task too much for them. These are feats which Miss Hurst undeniably performs—how, the

participants and spectators are by no means agreed. Some insist that a mysterious and magnetic force is exerted, while many declare that the secret is simply muscle artfully applied. It should be stated that in many instances, and notably in the case of Professer Dowd, and one or two other men famous for their strength, Miss Hurst's power was resisted with more or less success. In some cases, she has been entirely baffled.

Those who are not wedded to a theory of odic, psychic, or some other occult force, are satisfied that there is nothing in Miss Hurst's power but superior physical strength.

WOMEN AND WORK.

EAST, West, North, and South, I have met girls—homely and pretty, self-reliant, and dependent, of the upper and lower classes. The bread-and-butter question was a daily vexing, unsolved problem with the greater number. A rich husband was the first and most desirable solution; next best, "genteel" work; while work best suited to them was "not to be thought of."

"What can you do?" I asked of a sweet-faced woman of twenty-four, who at sixteen married the only son of wealthy parents, who welcomed "Harry's wife" into the family because "Harry was wild; perhaps he would reform." Eight years of money losses, humiliations, and lastly the "dragging through divorce courts" (family jars, and experiences that were worse than death), has made prematurely old the once hopeful girl.

Anna had in her youth every advantage. Herr Muller's bills for tuition, large as they were, did not benefit her. The practical, hard, dry drudgery was neglected; the sweet voice was untrained; music, drawing, common branches, were alike half learned. Delicate in health, fitted for nothing, the father and mother gone, her own way to make—how was it to be done?

In a large town two girls sat at their front window sighing for "something to do," and envying the passers-by their stylish attire and phaetons. Work was necessary in that family. "Suppose," I suggested, "you make use of the ten acres of rich soil that your father owns."

"How? What?" was their eager question.

"Cultivate early vegetables, small fruits, flowers, medicinal herbs, for market."

If looks could have annihilated me, I should have been in danger.

"Do you really mean for *us* to dig and plant, gather sage and boneset for drug-stores, and do such small business?"

"I have seen very excellent women not above such work," was my somewhat crusty reply.

"When *we* raise sage and onions for market, we will send you word. We shouldn't mind the flowers, but the vegetables!" and the dainty noses turned up in disgust.

I think every girl owes it to herself, in this day of change, to fit herself for some one useful employment. To-day we are up ; fortune's wheel turns ; to-morrow we are down. Unfortunately we are not ethereal creatures ; we must live ; and it requires work and management to enable us to live, even in a plain way. Do not waste time on anything that is not truly absorbing and interesting. If cooking is your *forte*, learn it well enough to be a successful cook ; don't try to make a poor musician or artist, when you might be a success as a cook. When women learn to take care of the pennies and the small economies, and to think that housework or domestic service is not degrading, there will be fewer disappointed and wrecked lives in the world, that might have been happy and successful but for a false pride fostered by some mothers. There are many girls, bright and sweet, who are not capable of mastering an ology or a science, but whose fond and foolish mothers attempt to buy them a "capacity." If a young girl have a real taste for art or music, cultivate it. Perhaps it will be a bread-winner for her some day. With a musical education one must have practical common-sense to be a successful teacher. One may know about grand composers, and be able to render beautifully the compositions of Handel, Haydn, and Mozart ; music may speak volumes to the enthusiast, and yet she may be able to make no practical use of this rare attainment. It is disappointing, after spending years in learning to play brilliant and difficult music, to be called upon to play "something really good—'Golden Slippers' ; none of your dry, long-winded pieces for me," by a patron who has the right to call for "Yankee Doodle," as he pays his money. Many things are discouraging to the lover and teacher of music, and only patience, tact, and sympathy, can make a successful teacher. But there are pleasant things with work of every description. Surely, independence is a comfortable thing to have about the house of a married lady. One editor bewails the number of surplus women, and the growing disinclination of marriageable men to marry. Cases have been on record where women with

wealthy husbands resorted to subterfuges and petty devices to get a little pin-money, and these wives felt their dependence keenly. Of course this editor (as do most men) thinks a husband is the very acme of bliss for a woman. He ought to know, but there are *some* things he might not be learned in, and one of them is women.

E. G.

BEAUTIFUL AT FORTY.

A TALK WITH GIRLS.

ARE you taking that care of your health, on which alone beauty can depend, and which will make you at forty—when you are a wife and mother—a robust, handsome woman, better looking even than you are now? You say you are. I do not believe it, and you do not either. No young woman who rises in the middle of the forenoon, eats sweetmeats, spends the day in idle yawning, and the night in unhealthy dress and amusements, can at the same time lay the foundation for good health at forty. It is all very well to be handsome at twenty; but to be handsome and healthy both, at forty, is more to be desired.

Now, if you would preserve your beauty and health, rise with the lark, go into the open air and warm sunshine, bathe the face in sparkling dew, and so add lustre to your eyes, bloom to your cheeks, elasticity to your footsteps, and vigour to your whole body and mind. Eat proper food *in the daytime*, and secure plenty of sleep at night. Take exercise; run up hill for a wager, and down for fun. Roam meadows, climb fences, and go home with an appetite acquired by healthy employment. The roving, romping girl has the best health. The bright-eyed, rosy-cheeked, blooming, healthy miss, who can darn a stocking, mend her own clothes, and be at home in kitchen or parlour, secures the best husband and makes the best wife; while the pining, wasp-waisted, novel-reading daughters of fashion, are no more fit for matrimony than a doll.

Unfortunately too many girls are taught to regard a pretty dress, accomplishments, and so-called society, as the only necessary qualifications for a successful life, and if ever they become wives and mothers, what useless wives, and what helpless, senseless mothers they make! The truth is, my dear girls, you need less fashionable restraint and more liberty of action; more Nature and less novels; more sunlight and less gaslight; more exercise and less sofa; more frankness and less mock modesty, more kitchen and less parlour.

Cultivate an amiable disposition, not in show but in reality. Study self-respect and dignity of character. Read good books, and learn useful home occupations. Dress in plain, neat, becoming attire ; do not screw your waist into a corset until it is difficult to breathe and agony to laugh ; but be healthy, and active, and helpful in all your family and social relations. Set before yourself the standard of a pure and noble womanhood, live a life full of good deeds, and show womanly modesty, strength, and sincerity in all that you say and do.

“ Make thy life all pure and true,
Fill it with deeds of high endeavour ;
Be brave to dare and strong to do
That which thy God approveth ever.
Let patience, gentleness, and love,
Crown e'en thy name with thoughts of sweetness :
So shalt thou walk all fear above,
A WOMAN—in thy rich completeness.”

—Duties and Dangers.

PRAISE AND BLAME.

MUCH harm may be done to a youth by indiscreet praise, and by indiscreet blame ; but remember, the chief harm is always done by blame. It stands to reason that a young man's work cannot be perfect. It *must* be more or less ignorant ; it must be more or less feeble ; it is likely that it may be more or less experimental, here and there mistaken. . . . If therefore you allow yourself to launch out into sudden barking at the first faults you see, the probability is that you are abusing the youth for some defect naturally and inevitably belonging to that stage of his progress ; and that you might just as rationally find fault with a kitten for not being as grave as a cat. . . . But there is one fault which you may be quite sure is unnecessary, and, therefore, a real and blameable fault : that is haste, involving negligence. Whenever you see that a young man's work is either bold or slovenly, then you may attack it firmly, sure of being right. If his work is bold it is insolent ; repress his insolence : if it is slovenly it is indolent ; spur his indolence. So long as he works in that dashing or impetuous way, the best hope for him is in your contempt ; and it is only by the fact of his seeming not to seek your approbation that you may conjecture he deserves it. But if he does deserve it, be sure that you give it him, else you not only run a chance of driving him from the right road by want of encouragement, but you deprive yourself of the happiest privilege you will ever have

of rewarding his labour. For it is only the young who can receive much reward from men's praise: the old, when they are great, get too far beyond and above you to care what you think of them. . . . Then you may urge them with sympathy, and surround them then with acclamation; but they will doubt your pleasure, and despise your praise. You might have cheered them in their race through the asphodel meadows of their youth; you might have brought the proud, bright scarlet into their faces, if you had but cried once to them, "Well done," as they dashed up to the first goal of their early ambition. . . . But now their pleasure is in memory, and their ambition is in heaven. They can be kind to you, but you never more can be kind to them. You may be fed with the fruit and fulness of their old age, but you were as the nipping blight to them in their blossoming, and your praise is only as the warm winds of autumn to the dry branches. There is one thought still, the saddest of all, bearing on this withholding of early help. It is possible, in some noble natures, that the warmth and the affection of childhood may remain unchilled, though unanswered; and that the old man's heart may still be capable of gladness, when the long-withheld sympathy is given at last. . . . But in these noble natures it nearly always happens, that the chief motive of earthly ambition has not been to give delight to themselves, but to their parents. Every noble youth looks back, as to the chiefest joy which the world's honour ever gave him, to the moment when he first saw his father's eyes flash with pride, and his mother turn away her head, lest he should take her tears for tears of sorrow. . . . Even the lover's joy, when some worthiness of his is acknowledged before his mistress, is not so great as that, for it is not so pure: the desire to exalt himself in her eyes mixes with that of giving her delight; but he does not need to exalt himself in his parents' eyes: it is with the pure hope of giving them pleasure that he comes to tell them what he has done, or what has been said of him; and, therefore, he has a purer pleasure of his own. And this purest and best of rewards you keep from him if you can; you feed him in his tender youth with ashes and dishonour; and then you come to him obsequious, but too late, with your sharp laurel crown, the dew all dried from off its leaves; and you thrust it into his languid hand, and he looks at you wistfully. What shall he do with it? What can he do, but go and lay it on his mother's grave?—*Ruskin*

VIRTUES, like essences, lose their fragrance when exposed. They are sensitive plants, and will not bear too familiar approach.

BALMY SLEEP.

A PROMINENT physician says a person should never be waked except where there is urgent necessity for it. Nature knows her own business, and the men who follow Nature's rules the closest will receive most of her blessings. A man in his natural state is healthy and sound. He contracts disease, or some one else contracts it for him. The ailments of the father and mother are often visited upon the children, not because it is a source of pleasure to the Almighty, but because it is Nature's law. One of Nature's rules is that a man shall have sleep. If it had been intended that a man should work 24 hours out of 24, Nature would make the sun shine without interruption all the time. Lights are innovation. Wild beasts don't have lights. They are reserved for man with his superior intelligence and multiplicity of bodily ailments. Night was made for sleep and the day for work.

The man who disregards the demands of his mind and body for the amount of rest which Nature claims, suffers sooner or later, and pays dearly for having abused this prime rule of health. Nature is the best bookkeeper the world ever saw. You may overdraw your account, but you always pay back the last penny, and often give up the pound of flesh—sometimes even more than the pound. A man may think he can steal from Nature, but he cannot. I do not think a person should be waked at morning, for this reason: When a man falls asleep he is in the shop for repairs, as the railroad men say. His frame and all his intricate machinery is being overhauled and made ready for the next day's work. The wear of the previous day is being repaired. Nature is doing that herself. She knows what the tired frame needs, just as she knows how to make the heart throb and send the blood coursing through the veins. Then she takes that tired frame, lays it down on the bed, surrounds it with the refreshing air of night, covers it with the soft darkness, and lets the man rest. "Tired Nature's sweet restorer—balmy sleep" visits him, and as the hours pass by his energies are renewed, his strength comes back, and, finally, when morning breaks and the sunlight steals through the lattice, he opens his eyes and he is himself again. If he is early to bed he awakes correspondingly early.

Now, who will go to that man's side an hour before he opens his eyes, and say to Nature: "Stand aside, and let him get up, he has enough of rest." "Well," Nature will say, "you can take him if you will, but I will charge him with an

hour's loss of sleep, and I'll collect it out of his bones and nerves and hair and eyesight. You can't cheat me, I'll find property to levy on." The old law used to be eight hours for sleep, eight hours for the usual vocation, and eight hours for the service of God. The day was divided into three equal parts, and each part was devoted to a special purpose. One was sleep, and not one bit too much.

THE USE OF THE IMAGINATION.

IN England, especially, there is among physical inquirers an avowed determination to separate philosophy from poetry, and to look upon them not only as different but as hostile. Among that class of thinkers, whose zeal and ability are beyond all praise, and to whom we owe almost unbounded obligations, there does undoubtedly exist a very strong opinion, that in their own pursuit the imagination is extremely dangerous, as leading to speculations, of which the basis is not yet assured, and generating a desire to catch too eagerly at distant glimpses before the intermediate ground has been traversed. That the imagination has this tendency is undeniable. But they who object to it on this account, and who would, therefore, divorce poetry from philosophy, have, I apprehend, taken a too limited view of the functions of the human mind, and of the manner in which truth is obtained. There is in poetry, a divine and prophetic power, and an insight into the turn and aspect of things, which, if properly used, would make it the ally of science instead of the enemy. By the poet, Nature is contemplated on the side of the emotions; by the man of science on the side of the understanding. But the emotions are as much a part of us as the understanding; they are as truthful; they are as likely to be right. Though their view is different, it is not capricious. They obey fixed laws; they follow an orderly and uniform course; they run in sequences; they have their logic and method of inference. Poetry, therefore, is a part of philosophy, simply because the emotions are a part of the mind. If the man of science despises their teaching, so much the worse for him. He has only half his weapons; his arsenal is unfilled. Conquests, indeed, he may make, because his native strength may compensate the defects of his equipment. But his success would be more complete and rapid if he were properly furnished and made ready for the battle. And I cannot but regard as the worst intellectual symptom of this great

country, what I must venture to call the imperfect education of physical philosophers, as exhibited both in their writings and in their trains of thought. This is the more serious, because they as a body form the most important class in England, whether we look at their ability, or at the benefits we have received from them, or at the influence they are exercising, and are likely to exercise, over the progress of society. It cannot, however, be concealed, that they display an inordinate respect for experiments, an undue love of minute detail, and a disposition to overrate the inventors of new instruments, and the discoverers of new, but often insignificant, facts. Their predecessors of the seventeenth century, by using hypotheses more boldly, and by indulging their imagination more frequently, did certainly effect greater things, in comparison with the then state of knowledge, than our contemporaries, with much superior resources, have been able to achieve. The magnificent generalisations of Newton and Harvey could never have been completed in an age absorbed in one unvarying round of experiments and observations. We are in that predicament, that our facts have outstripped our knowledge, and are now encumbering its march. The publications of our scientific institutions, and of our scientific authors, overflow with minute and countless details, which perplex the judgment, and which no memory can retain. In vain do we demand that they should be generalised, and reduced into order. Instead of that, the heap continues to swell. We want ideas, and we get more facts. We hear constantly of what Nature is doing, but we rarely hear of what man is thinking. Owing to the indefatigable industry of this and the preceding century we are in possession of a huge and incoherent mass of observations, which have been stored up with great care, but which, until they are connected by some presiding idea, will be utterly useless. The most effective way of turning them to account would be to give more scope to the imagination, and incorporate the spirit of poetry with the spirit of science. By this means our philosophers would double their resources, instead of working, as now, maimed, and with only half their nature. They fear the imagination on account of its tendency to form hasty theories. But, surely, all our faculties are needed in the pursuit of truth, and we cannot be justified in discrediting any part of the human mind. And I can hardly doubt, that one of the reasons why we, in England, made such wonderful discoveries during the seventeenth century, was because that century was also the great age of English poetry. The two mightiest intellects our country has produced are Shakespeare

and Newton ; and that Shakespeare should have preceded Newton, was, I believe, no casual or unmeaning event. Shakspeare and the poets sowed the seed, which Newton and the philosophers reaped. Discarding the old scholastic and theological pursuits, they drew attention to Nature, and thus became the real founders of all natural science. They did even more than this. They first impregnated the mind of England with bold and lofty conceptions. They taught the men of their generation to crave after the unseen. They taught them to pine for the ideal, and to rise above the visible world of sense. In this way, by cultivating the emotions, they opened one of the paths which lead to truth. The impetus which they communicated survived their own day, and like all great movements, was felt in every department of thought. But now it is gone ; and unless I am greatly mistaken, physical science is at present suffering from its absence.

Since the seventeenth century we have had no poet of the highest order, though Shelley, had he lived, would perhaps have become one. He had something of that burning passion, that sacred fire, which kindles the soul, as though it came fresh from the altar of the gods. But he was cut off in his early prime, when his splendid genius was still in its dawn. If we except his immature, though marvellous, efforts, we may assuredly say, that for nearly two hundred years, England has produced no poetry which bears those unmistakeable marks of inspiration which we find in Spencer, in Shakespeare, and in Milton. The result is, that we, separated by so long an interval from those great feeders of the imagination, who nurtured our ancestors, and being unable to enter fully into the feelings of poets who wrote when nearly all opinions, and, therefore, nearly all forms of emotion, were very different to what they now are, cannot possibly sympathise with those immortal productions so closely as their contemporaries did. The noble English poetry of the sixteenth and seventeenth centuries is read more than ever, but it does not colour our thoughts ; it does not shape our understanding as it shaped the understanding of our forefathers. Between us and them is a chasm, which we cannot entirely bridge. We are so far removed from the associations amid which those poems were composed, that they do not flash upon us with that reality and distinctness of aim, which they would have done, had we lived when they were written. Their garb is strange, and belongs to another time. Not merely their dialect and their dress, but their very complexion and their inmost sentiments, tell of bygone days, of which we have no firm hold. . . .

The assimilation is incomplete, because the sympathy is incomplete. We have now no great poets ; and our poverty in this respect is not compensated by the fact that we once had them, and that we may and do read their works. The movement has gone by ; the charm is broken ; the bond of union, though not cancelled, is seriously weakened. Hence, our age, great as it is, and in nearly all respects, greater than any the world has yet seen, has, notwithstanding its large and generous sentiments, its unexampled toleration, its love of liberty, and its profuse, and almost reckless, charity, a certain material, unimaginative, and unheroic character, which has made several observers tremble for the future. So far as I can understand our present condition, I do not participate in these fears, because I believe that the good we have already gained is beyond all comparison greater than what we have lost. But that something has been lost is unquestionable. We have lost much of that imagination which, though in practical life, it often misleads, is, in speculative life, one of the highest of all qualities, being suggestive as well as creative. Even practically, we should cherish it, because the commerce of the affections mainly depends on it. It is, however, declining ; while, at the same time, the increasing refinement of society accustoms us more and more to suppress our emotions, lest they should be disagreeable to others. And as the play of the emotions is the chief study of the poet, we see, in this circumstance, another reason which makes it difficult to rival that great body of poetry which our ancestors possessed. Therefore, it is doubly incumbent on physical philosophers to cultivate the imagination. It is a duty they owe to their own pursuits, which would be enriched and invigorated by such an enlargement of their resources. It is also a duty which they owe to society in general ; since they, whose intellectual influence is already greater than that of any other class, and whose authority is perceptibly on the increase, might have power enough to correct the most serious deficiency of the present age, and to make us some amends for our inability to produce such a splendid imaginative literature as that which our forefathers created, and in which the choicest spirits of the seventeenth century did, if I may so say, dwell and have their being.—*Buckle's "History of Civilization."*

THE self-sacrifice of a human being is not a lovely thing. It is often a necessary and a noble thing ; but no form nor degree of suicide can ever be lovely.—*Ruskin.*

Facts and Gossip.

IT is pleasant to be able to congratulate ourselves and our readers on the fact that the ranks of phrenology produce yearly more and more thinkers and writers on this important science. The paper by Mr. Webb in last month's number is a distinct acquisition, and has been widely commended. The essay on "Self-Esteem," by Mr. Speed, the first part of which appears in this month's number, will be found equally valuable. With each issue we hope to be able to present articles equally original and suggestive.

IT is said that very quiet eyes, which impress and embarrass one with their repose, signify not only self-command, but also much complacency and some conceit. Restless eyes that cannot look one steadily in the face denote a deceitful, designing mind. Eyes in which the white has a yellowish tinge, and is streaked with reddish veins, prove much of strong passion and hasty tempers. Very blue eyes bespeak a mind inclined to coquetry. Grey eyes signify probity, intelligence, and excellent reasoning faculties. Black eyes show a passionate, lively temperament, and oftentimes a most deceitful disposition. Brown eyes are generally tender and true, indicating a kind and happy disposition.

The *Frankfurter Zeitung* informs us that Dr. Reinsch has found, as the result of a long series of minute investigations, that the surfaces of 50-pfennig pieces (sixpences) which have been long in circulation, are the home and feeding-ground of a minute kind of bacteria and vegetable fungus. An extended series of observations showed that this is the case with the small coins of all nations, the thin incrustation of organic matter deposited upon their surfaces in the course of long circulation rendering them very suitable for this parasitical settlement. Dr. Reinsch scraped off some of these incrustations, and with a small scalpel divided them into fragments, which were subsequently dissolved in distilled water. The employment of lenses of very high power showed the bacteria and fungi distinctly. This is a matter of no little importance from a hygienic point of view. It has now been conclusively established that bacteria form the chief agency in the propagation of epidemic disease. The revelation that they have a chosen domicile in the most widely circulating medium which probably exists in the world presents us with a new factor in the spread of infectious disease. There is, however, a remedy. Where coins have been in circulation for a number of years, if they are washed in a boiling weak solution of caustic potash they will be cleansed from their organic incrustation, and so freed from the unwelcome guests which they harboured.

IN the latest Healthery Handbook, subject "Athletics," by the Hon. E. Lyttelton, we find the following excellent remarks on the

duty of chewing food :—“The veriest dullard who thinks for a moment on the daily task entrusted to our digestive machinery, how incessantly it recurs, and how serious are the issues involved in its fulfilment, and who has, moreover learned anything of the delicacy of those organs, and their close relation to happiness, will understand the need of lightening that task as far as we can, and the cruelty of any wanton increase of it. Our system asks for food well chewed and well lubricated, and we give it dry nuggets, at rapidly-recurring meals. I could name a dyspeptic, who travelled in search of a cure all in vain, till a stranger told him to masticate his meat, and he obtained instant relief. But there is a better instance at hand than either of these. Mr. Gladstone is a man about whose physical vigour there can be no question. Men are known in troublous times to cavil at his statemanship, but no one has anything to say against his digestion. Now as early as the year 1848, Mr. Gladstone formulated to himself rules for chewing food. Previously to that he had always paid great attention to this requirement of nature ; but at that date he laid down as a rule for his children that thirty-two bites should be given to each mouthful of meat, and a somewhat lesser number to bread, fish, &c. It is also known that to get into a habit of following his example is as easy as can be. A little attention paid to it for two days will ensure the duty being unconsciously performed through life with the most beneficial results. Truly, history turns upon small causes ! The philosopher of future ages may busy himself with pondering what the course of the world would have been had that number been twenty-two instead of thirty-two.”

ARE our girls trying to become too muscular? Is the physical development produced by excessive indulgence in the horizontal bars, the trapeze, and other graceful forms of exercise, good for them? This is a question asked by one of those disturbers of popular contentment—a medical man—in the columns of a contemporary. The modern English maiden, as we know, in the intervals of Latin, Greek, logarithms, lawn-tennis, the works of Mr. Ruskin, and the practice of the sackbut and other musical instruments, pursues gymnastics, with an ardour which our medical mentor thinks is overdone. A certain amount of dumb-bell exercise and drilling is necessary for perfect health, and helps to produce that comeliness of outward form and bearing which even wise men do not wholly despise. But taken in excess it neither adds to grace nor health. If we are to believe this doctor, the ideal of some British mammas would seem to be that of the people of ancient Lacedæmon, among whom the women were specially instructed to “put on” as much muscle and as little clothing as possible. But England is not Sparta ; and warlike virtues, as Mr. Herbert Spencer often tells us, are not the only things to be aimed at. Besides, it is said that the Spartan women were not a bit better than other people after all, and were quite as much open to the allurements of jewellery, and fine clothes, and other weaknesses, as the ladies of any other city in Hellas. The happy thing in this, as in other matters, is the medium.

AN ingenious American, a Mr. Webb-Barber, who for many years suffered severely from chronic indigestion, has been led to the discovery of a cure by the observation of a very simple fact. Fowls, he remarked, swallow sand and pebbles to help their digestion; why, he asked himself, should not a similar admixture of sand with one's daily food assist its assimilation in the stomach of man? Acting upon this idea, he proceeded to add a certain quantity of sand or finely-powdered gravel to his regular diet; and he found that after a few days of this regimen his dyspeptic symptoms disappeared. "Judge" Anderson, a commissioner of agriculture, and others, have tried the sand cure with an equally successful result. An American medical paper seriously advises sufferers from dyspepsia to try this mode of treatment when less heroic remedies fail to give relief, and looks forward to the day when physicians will send their patients to the seaside, not for the sea-bathing, but for the hygienic advantages which the beach itself will place within their reach.—If any of our readers should be tempted to try this novel "cure," perhaps he will be obliging enough to acquaint us with the result; or, in case he should no longer be able, desire a friend to do so.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions:—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

HERBERT (Brighton) has a very earnest mind, is very sincere, active, and restless. He is highly nervous and excitable; he must learn to govern his feelings, and to wait. He is not adapted to heavy work, and had better devote himself to study and be a teacher, writer, professor, musician, or preacher. He is quite original, asks many questions, and wants to know everything. He is a good listener and a great talker. He is quite ambitious to excel, to improve, and to be a man. All things considered, he should be a literary man or scholar, or go into business.

LILLY (Greetland) has a face that indicates more than ordinary vital power and animal life. She enjoys every minute of her existence and will want to live as long as she possibly can. She is wide awake to all that is going on around her; is particularly interested in locomotive work; and when interested she is equal to almost any task. She is full of spirit, and is not wanting in temper. She enjoys food highly, and could prepare a good dish for others; is thoroughly practical, is a good judge of things and their qualities, and has the capacity of acquiring much varied knowledge. She has a favourable organization to manage business, or to be a doctor or a nurse. She

is forcible rather than correct in her conversation, and is much more interested in the true and useful than in the fashionable and showy. She is capable of making a good wife, mother, and housekeeper. If she does not happen to marry a wide-awake man, she will wake him up before they have lived together long.

TOPSY (Greetland) was born for action. She is full of blood, and has a powerful constitution. She cannot live an idle life; she prefers vigorous labour to parlour entertainment. She comes from a remarkable family : is highly ambitious, rather bold, courageous, energetic, and venturesome. She has scarcely enough prudence and restraint. She would have taken the place of a man quite well, and cannot live a quiet life ; is very ardent, earnest, ambitious, positive, kind-hearted, and yet very determined in carrying out her purposes. She will succeed in almost anything that she takes hold of, provided she does not go too far, and try to do too much. She should either marry, and work with her husband, or go into some kind of business where she can have it all her own way. She is very shrewd, intuitive, sharp-minded, and distinct in her opinions, without much desire to show off.

G. Q. (Barnsbury) should be characterised for ardour, earnestness, and sincerity of mind. She has great intellectual curiosity ; is quick to gather up news, and has great power to retain and communicate knowledge. Her standard of character is high, and she lives in a moral and spiritual atmosphere. She is remarkable for sympathy, kindness, tenderness of feeling, and regard for the happiness of others ; she is always making personal sacrifices for someone else ; is devoted in her attachment, delicate in her feelings, constant in her affections, decidedly friendly and strongly attached to one place. She is quite cautious and very sensitive ; is not proud or haughty, and few are more interested in subjects of a spiritual and religious nature. She is naturally frank, candid, confiding, and honest, as well as pure-minded.

J. L.—You have a favourable organization for health and action, and have a strong hold on life. You are subject to some extremes of mental action. You have a high degree of executiveness and force of character ; at the same time you are remarkable for your originality, scope of mind, wit, love of beauty, fondness for display, and you possess more than average power to imitate and show versatility of talent. You are enthusiastic, and throw your whole soul into everything you do. You are more theoretical than practical, and could attend to wholesale better than to retail business, but you could not succeed in anything requiring a quiet, restrained, sedentary life. You are more vigorous than copious in your style of talking, but are liable to use rather extravagant language, and paint things up rather extravagantly.

D. K. (Dumfries).—You are fairly balanced in temperament and general organization ; are not subject to many extremes ; are constitutionally active, and have an insatiable thirst for knowledge. You are remarkable for your powers of observation ; you delight to study

nature, and have a superior memory of all you see, where you go, and what you do. You could learn science, and sustain yourself as a teacher, or in some practical sphere of life. Are cautious, rather reticent, very conscientious, extremely tender-hearted, deeply interested in children, and not wanting in force and energy of mind when there is anything special to be done. You are not particularly taken with, or given to, the investigation of abstract and complicated questions. Are decidedly intuitive in the perception of character and motives, and make nice distinctions between error and truth. You are specially interested in the study of the Divine mind or the future state.

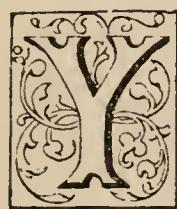
J. F. Q. (London).—You have an ardent mind, and are alive to everything that is passing. Are remarkable for your thirst for knowledge, and are interested in all practical matters. You have good powers of discrimination, and are intuitive in discerning character. You cannot enjoy yourself alone. Are strongly inclined to a religious life. You place a high value on particular friends, and could make a very loving, devoted wife. You have naturally considerable pride and self-respect, and are quite desirous of keeping up appearances, and associating with superior people. You are naturally healthy, but get exhausted easily. Are inclined to enjoy in anticipation, and to live with reference to another life. You have superior conversational talent, and take as much pleasure in communicating knowledge as in receiving it. Your sympathies are very strong and active, and you take delight in doing good and making others happy. Are fond of children, and, as a mother, would be devoted to them. You have a hopeful, happy disposition, and are just, and particular to do as you agree.

ALL the hope for the dress question, and for every other that affects the interest, happiness, and future well-being of the sex, lies in the young woman—the good, earnest, conscientious, and thoughtful girls who wish to do their whole duty, who will do it when they know what it is ; whose feet tread the earth, but whose eyes are lifted to the stars, hoping for a token of the work they are to perform. Would that some angel might appear, and show them that honesty, healthfulness, modesty, and suitability in their dress is the first step in progressive womanhood, and that the rest can hardly be taken without it ! It is of little use appealing to older women in this matter ; they are too much engrossed, too much in the “swim,” care too much or too little about the subject to lend themselves to any determined effort. But the educated, refined girls, who people our high-schools and colleges, who have obtained glimpses of a whole arena of possibilities closed to their mothers, and who know that the strength which is spent in “making over” that which is good, in anxious fears regarding the length of sleeves, the width of skirts, and the size of buttons, cannot be put into that which will be permanently healthful and beneficial.

THE Phrenological Magazine.

OCTOBER, 1884.

FREDERICK H. FURNISS.



YOU have a very high degree of the nervous temperament, joined to a prominent amount of the motive, with only an average degree of the vital, and that somewhat sacrificed ; consequently, you are noted for your activity, quickness, distinctness, and positiveness of mind ; are also remarkable for your vigour and executive spirit, and for your desire to carry things through.

Your brain is rather large, which, connected with a predominance of the mental temperament, gives you more men-



tal than physical power. Still you must have been remarkable for your physical strength and your power of endurance. I find that you have a very strong social and domestic disposition, therefore are extravagantly fond of place—of home. Few would become more attached to a place than you. You are exceedingly fond of children or anything that is young and dependent—of pets and animals, and delight in having them around. You could enjoy married life very highly if entered into properly.

You have a very great amount of individuality of character ; are anxious to do for yourself, and rely on your own resources. You can not be a moderate man in anything, and from a little child you have been remarkable for wanting to do things yourself ; not because you are proud and haughty, but because of your great sense of liberty.

You have almost any amount of will-power and determination ; hence, with your temperament, you are able to go through very severe trials. You have physical strength and endurance, and can so put forth effort as to use yourself entirely up before you give in.

Your moral brain indicates strong sympathy and great interest in the welfare of others. Your kindly sentiments favour the missionary feeling, and the disposition to live and labour for others. You are not superstitious or carried away with beliefs, but are interested in any reforms or progressions that result in happiness to others.

The most marked features of your character are connected with your intellect. You have very large perceptive faculties ; are remarkable for your powers of observation, very quickly seeing whatever is going on around you. You "take stock" correctly of all that you see, and rarely forget what your eyes once rest upon ; you have, indeed, a first-class scientific cast of mind, which can be directed in the channel of a naturalist, a chemist, an explorer, or an inventor. You have a keen mechanical eye, and know how to put parts together accurately ; can see that things are appropriate or fitted without being obliged to measure. As a surveyor you could judge as correctly of land, distances, &c., as though you were to measure. This would be particularly true if you were a mechanic in working by the eye. You are remarkable for your knowledge of distances, and for memory of the places that you have visited. Your sense of order, management, and method is well marked, so that you are able to classify, and systematize with great correctness.

You have favourable talent for arithmetic and mathematics, especially in the frequent application of mathematical principles ; could have excelled as an astronomer. Constructiveness being large, in its connection with the perceptive faculties, gives you ability to apply principles correctly, adjust one mechanical movement or principle to another, so as to have everything harmonise and work easily and successfully.

You have an excess of imagination ; are very fond of everything beautiful, especially in nature. In fact, there is almost too much of the sense of the beautiful ; it magnifies your ideas at times extravagantly.

You have excellent capacity in the way of analysis, discrimination, and criticism ; are able to see minute differences in things, and are intuitive in discerning character and motives ; you catch the spirit of others with whom you are. Your mind is so intuitive that you go directly at results without a process of reasoning ; you know from the beginning how the end is coming out, and you are quick to see where there are defects, and how they can be remedied. Few individuals can carry more things in their mind, attend to a greater variety of business, and be interested in a greater number of things than yourself. Your greatest fault is that you overdo—attempt more than you should ; hence, get too many irons in the fire, and thus, if not mentally embarrassed, there is a tendency to wear out your constitution prematurely.

You have a first-class organization for a mechanic, an artist, an author, or an inventor.

L. N. F.

The foregoing is a brief mental portrait of a gentleman well known in Seneca County, New York, for enterprise, intellectual brightness, public spirit, and generous sentiment. A self-made man, in the common meaning of the term, he is now, when but on the sunny border of middle life, the possessor of fortune and of an honourable reputation. His parents emigrated from Yorkshire, England, in 1825, and first settled far up in the north-west of New York, but subsequently removed to Waterloo, in Seneca County, where the elder Furniss was employed in the woollen mills of that town. Frederick H., the youngest of a family of six sons and four daughters, was born at Oriskany Falls, Oneida County, N. Y., in 1834, and when but a youth, worked for several years in the mills as wool-sorter. In 1852 he went to Cleveland, Ohio, and secured employment on the Cleveland and Pittsburgh Railroad as a brakeman. The same year he lost his leg above the knee by being run over by a freight train. He remained in the employ of the company for fifteen years afterwards holding many important positions. In 1858 he invented and patented what is now known as the Pullman sleeping-car, and disposed of the patent to Mr. Pullman. Naturally of a thoughtful, inventive turn of mind, he has entered over twenty patents for useful inventions.

Mr. Furniss, now the possessor of an ample income, and not troubled by a craving for excessive wealth, resides in a leisurely manner at Waterloo ; at once the student of nature and the friend of social improvement. He takes a deep interest, for example, in Indian archæology ; has a fine collection of aboriginal relics, and is one of the most prominent

members of the Waterloo Literary and Historical Society. Mr Furniss has been in the habit lately of spending his summers at Crystal Springs, N. Y., where he owns a very attractive woodland estate, which he has named "Fern Lodge." Originally a bit of forest, Mr Furniss has improved and embellished it until the result is a beautiful sylvan park. A visitor has thus described it :

"The lovely spot is a peninsula near the head-waters of Big Stream, that falls into the Seneca eight miles away. A rustic cottage, wrought by his own hands, furnished with every device of taste and skill, is the central figure. The enclosure is entered by a rustic bridge, which is only passable by his chosen guests. Along the circumfluent stream are plants and flowers and ferns and mimic villages. Every tree is a souvenir of the country's history, and bears the names of aboriginal dignitaries. A fine little craft of four men's burthen is afloat upon the stream. Upon the lawn, between the terrace and the water, is an Indian encampment. An old spinning-wheel and a splint-bottom chair are other attractions on the bottom-land. But I leave the inventory to say that even the wild birds and squirrels have become tame by constant companionship with the lord of this sylvan manor. I saw him call squirrels by name from out the tall trees and feed them upon his lap. The writer so far succeeded with one of the little athletes as to give him a nut from his hand, which he partially shucked upon his knee, and then deposited his treasure sixty feet high in a tall pine, and returning, chattered his gratitude at a cautious distance. This beautiful place the proprietor has christened Fern Lodge. The dewy freshness of morning through all the sultry day pervades the colonnaded bowers of Fern Lodge like a grateful incense."

Mr. Furniss is a bachelor, yet fond of social enjoyment, and especially fond of children. He opens the gates of his forest home in summer to companies of children, and delights in their appreciation of the beautiful things that nature and his judicious taste have accumulated there. Among the matters of public interest in which he is now interested is the erection of a monument to the memory of the celebrated Seneca chief, Red Jacket, who was born in the neighbourhood of Waterloo. Mr. Furniss has published several articles in behalf of this project, which have had the effect to awaken the attention generally of those interested in the Revolutionary history of the United States. He has also prepared a design for the monument that is pronounced by all who have seen it as highly appropriate in its symbolism and dignity.

SELF-ESTEEM.

PART II

ONE of the most unfavourable results of the adoption of this unsound principle in moral economy, self-depreciation, is that it leaves the man of merit dependent for the recognition of that merit upon most precarious and uncertain conditions : upon the extent of the discernment, of the conscientiousness, of the justice, of others, upon their humour and inclination, and upon the possibility of an opportunity presenting itself when he may display his abilities to advantage without appearing to do so with the object of exciting attention. If a man of ability has to wait for his appreciation until he gets it voluntarily conceded to him, until some such fortuitous circumstance as I have mentioned occurs, he may have to wait till doomsday. Men are proverbially more ready to depreciate and detract than to praise, and will seldom voluntarily admit the existence in their midst of merit superior to their own.

Indeed, if the observation of La Rochefoucauld be true, that in the misfortunes of our best friends we always find something that gratifies us, it follows that men generally must take a pleasure rather in hearing others dispraised than in hearing them praised ; and that being so, we can readily imagine that they themselves will be more disposed to the censure than to the eulogy of others. "Flattery is pleasing to us," Dr. Johnson says, "even when we know it to be insincere, because it shows that the flatterer considers our favour worth stooping even to the meanness of falsehood to obtain." Now, when a man speaks disparagingly to Mr. A of Mr. B, he really flatters Mr. A, since it is tacitly implied by the fact of his thus speaking to A about B, that he is to be understood to suppose that A has not those faults which he attributes to B. Mr. A is conscious of this indirect flattery, and is pleased, even if he knows or suspects that the flatterer has said or thinks the same about him ; for Johnson's explanation holds good in this case also. This may be one reason why it is a fact that men take more pleasure in hearing others censured than in hearing them praised ; but that it is a fact all experience teaches. But I will not pursue further the inquiry as to the causes and motives of this preference, but content myself with saying that the preference exists—that comparatively few men have the magnanimity to love to hear others praised as they deserve when praise is deserved by them.

This being the case, it is obvious that the worth of any man

of merit stands but small chance of being fully recognized by his fellows of their own free will, and out of pure love of justice and right. Self-censure has been described as a sort of oblique self-praise, expressed to show how well the man who utters it thinks he can afford to disparage himself. So a conceited man may praise others just from a similar motive; and that it is often in this spirit that such a man dispenses praise is manifest from the manner in which it is frequently bestowed by men upon those of higher calibre than themselves, when it is expressed as if it were patronage conferred upon an inferior, not homage paid to a superior. A word of praise accorded in this manner, especially if marred by a certain qualification and grudgingness, which is the characteristic of some men's praise, I would often rather not have than have. It is like the caressing lick which a tame tiger might give to its master's hand; it brings the skin off.

Other men make their praise a sort of merchantable commodity, and confer frequent laudation on others in order that they may get equally well lauded in return; and if it should happen that the balance lies against themselves in the transaction they feel as if they had been overreached in a bargain, and slink away chagrined. But, though for such motives and in such spirit as I have indicated, men may occasionally praise others, yet it is rarely, indeed, that a man will accord warm, unqualified, disinterested commendation to another. Hence a man of merit is extremely likely to be underrated or overlooked, and never to obtain just recognition unless he, in some measure, challenges attention to himself. And, surely, considering the loss that must result to society from such a man remaining in obscurity, he, if he feels there is some danger of being treated as a cipher, and that perhaps even by his inferiors, unless he claims for himself the place in their estimation he deserves, has a right to stand out and himself assert his title to it; and indeed it is his duty to do so. He will, of course, if he exercises that right, fulfil that duty, be clamoured against at first as an immodest man, but when he has established his claims men will in their hearts exonerate him, although theoretically they may not. If he does not take the initiative himself he may remain unknown and unappreciated for ever.

Some say that true worth, whether it co-exists with modesty or not, is always discovered and appreciated soon or late. I do not believe this maxim. It was perhaps originated by some conceited genius, unwilling to admit that there could be in existence ability which, if duly appreciated and brought into notice, could compete with his own, and anxious

to make that appear all the rarer ; and the perpetuation of the theory is, perhaps, similarly explainable. Besides, how can it possibly be known that all true worth is ultimately recognized ? The saying that it is a cant sentiment, something like the proverb, "Murder will out," which is utterly untrue in its implication, as the annals of crime sufficiently prove. If we lived in a world of perfect morality, perfect justice, no true merit would continue unrecognized. But we do not inhabit such an elysium, and, consequently, a great deal of real mental excellence is never brought to light. There are now, I have no doubt, books in the British Museum, written by unknown authors, which contain conceptions as original and as beautiful as were ever penned ; and there these works lie hidden, to furnish material for the writings of more favoured authors, who obtain additional admiration and distinction by circulating the thoughts of the obscure writers as their own. False modesty, the want of perception of his own abilities, of due self-assertion, has prevented many a bright genius from making his mark in the world. There are men who sooner than commit the slightest breach of that false law of modesty which forbids them to speak of their consciousness of their own abilities, would allow that consciousness to eat into their hearts, as the Spartan youth did the fox, till they died in despair of meeting with the appreciation they yearned for.

But, I say, since men will not often voluntarily set themselves to seek out merit, or allow themselves to admit its existence, it behoves conscious worth to facilitate by its own action the discovery of itself. The conceited man is not likely to acknowledge it, and the modest man is not likely to compensate for the other's neglect, because, unfortunately, it is the conceited, loquacious, would-be supposed oracular man, whose opinions of others' merit are likely to be accepted, and not those of the quiet, modest man, who, of course, easily defers to the former as an authority upon this subject as upon others. Hence, a man of worth is very likely, to use a homely expression, to fall between these two stools to the ground, and indeed to be left there, unless, at the risk of being called immodest, he pushes himself into notice. The conceited portion of the community, as I have said, would not by their voluntary breath waft him into public estimation ; and as the modest portion are so swamped by the other, so far as influence in that direction is concerned, neither are they likely to advance him. Thus it is only by forcing himself upon the attention of the former and compelling them to acknowledge his abilities that he is likely to obtain due credit.

And it is by the first-named class chiefly that a man

of merit and of discernment will really prefer to be commended. The modest man is so accustomed to depreciate himself, and to exaggerate the merits of others, that his praise carries with it less weight than that of the conceited man, whose adulation, from the very fact of his known unwillingness to praise, is all the more valuable, and, on account of his own self-estimation, all the greater eulogy. I would take it as a much higher compliment if a conceited man called me clever than if a modest man did so, because the mental standard which the conceited man would call cleverness is higher than that which the other man would call so. I should, on that account, take such a compliment from a conceited man, if I felt it to be sincere, and especially if he were a man of some acuteness, as a pretty sure indication that I possessed a no small amount of ability. Hence, I say, it is the conceited whose praise should be most valued, and as they will never willingly accord a man of merit the opportunity of proving his claim to it, and as he will never obtain due recognition until he has earned their applause, his only chance of becoming thoroughly appreciated is to force upon them an occasion of displaying the abilities he consciously possesses, and compelling their unwilling homage. And, despite all the moralists can say, it is false modesty ; it is false morality, on his part if, seeing this to be the case, he prefers to be depreciated and under-estimated by those to whom he is equal or superior ; and, moreover, it is unseemly and unfitting in the essence of things, and a dishonour to the divinity that stirs within him, for him to submit to be treated by men whom he is conscious he equals, or excels, as one who is upon or beneath their own level.

And now to come to the combating of that theory which assumes that the highest worth is accompanied by the greatest modesty. Always premising that I mean by modesty that form of it which I have made the subject of depreciation in this article, I say that the theory is untrue. Christ, as I have pointed out, had no such modesty, and it seems to me exceedingly improbable that many men of great capacity can have possessed it. Genius is always more or less self-conscious ; and surely that superior acumen, that superior penetration, which characterizes genius, and enables the possessor to analyse men and things with such consummate ability, must also give him some perception of his own powers. How can he be expected to be unconscious of them, or, being conscious, to acquit himself throughout his daily life as though he were not ? Sir Isaac Newton's remark that he had only been like a child picking up shells by the ocean of

truth, has been quoted as a proof of extreme humility and modesty on his part. But this observation does not in the least imply that he was not fully conscious of his great powers. It indicates the sense of his ignorance and incapacity compared, not with the knowledge and capacity of other human minds, which sense he could not have felt, but with the vastness of the field of learning and discovery, as proved to him by the great achievements of his own single mind, that lay unexplored before him and before the world, and it implies his regret that, life being so short, he was enabled to accomplish so little. The spirit of Newton's utterance is that into which the most conceited man could enter, and the famous comparison is one which he could feel that if he were a Newton he could apply to himself, because it involves no unfavourable contrast between himself and his fellows. Probably there never was a man of greater intellectual powers than Bonaparte, and he was so conceited that it is said that he only stopped short of thinking himself divine because he could not accomplish what Christ had done.

The fact of great men comporting themselves in the presence of common men in a homely, unassuming manner, is often cited as a proof of their modest estimation of themselves. And biographers exult in this unassumingness on the part of their heroes as a pleasing and admirable trait in their characters, because supposed to be indicative of their low estimate of their own high abilities. It has often occurred to me that there is a certain smack of meanness in this satisfaction, derived, according to the admission of these writers themselves, from the defrauding of himself, by a man, of credit due from himself. It has always been confusing to my moral sense that one should find matter for congratulation in injustice being done, though it consist merely in a man not doing justice to himself. But the plain and simple manners of distinguished men do not proceed from self-depreciation. Their marvellous powers, which are new and strange to us, and which flash comet-like upon the world, are perfectly familiar and every-day matters to themselves; consequently, even if the most conceited men, it is impossible for them to be continually dazzled, like the rest of the world, by the contemplation of their individual excellence; and they thus appear to those who come in contact with them to be unimpressed with any full sense of their own greatness, whereas it is the very constancy and closeness of their acquaintance with it, the very familiarity they have with the extent of their own powers that make these men appear so unconscious of them.

There is another quality which moralists enjoin on us to cultivate, which is classed as a virtue cognate to the so-called one of modesty, and which, like it, has been distorted into one of a somewhat equivocal description—that is, contentment. Now we are in effect taught that in order to cultivate a spirit of contentment we must even exaggerate the extent of our comforts, our privileges, our possessions. But, although we are allowed to over-estimate our material benefits, for the sake of reaching this happy condition of mind, yet, in enumerating our advantages, should a superior intellect happen to be one of them, we are, on account of this contravening doctrine of modesty, to leave that out of our calculations altogether. That which—next to a good conscience—is to be prized by him who is favoured with it as the most precious possession a man can have, and that which more than all other blessings, next to that I have named, ought to dispose a man to a contented frame of mind, is not to be taken into consideration, because modesty forbids it. At least this is the logical outcome of the preaching of those who inculcate the self-depreciatory modesty and the self-abnegatory contentment combined, that I have described. The pietists say we must thank God for His manifold mercies, and what can make us more grateful to Him, and more devotional, than the clear conviction that He has endowed us with superior mental powers? But how can we thank Him for these if we are to cultivate this supposed beautiful virtue miscalled modesty to the extent of being unconscious of them? The preachers urge upon us persistently that it is but by the practice of the most abject humility on the part of man, both individually and as a race, that he can obtain the favour of the Deity; and they argue that due reverence for Him can be compatible only with the utmost depreciation of ourselves. They forget that the higher being man conceives himself to be the more glorious he must feel the Supreme Being to be, of whom he is the handiwork, and therefore the greater must be his adoration, his love, of the Creator.

The doctrine of self-depreciation, then, must be admitted to rest upon foundations which are morally and logically unsound. So far from the under-estimation of ourselves being the virtue it is extolled, under the euphonious name of modesty, as being, it is really subversive of the principles of truth and justice, because by practising it we not only do an injustice to self by denying ourselves our due credit, and impeding our obtainment of it from others, but we also do an injustice to society by promoting that social distortion caused by meretricious and pretentious mediocrity being allowed to

assume superiority over more real but less obtrusive worth. The practice of self-depreciation, moreover, is inconsistent with our true happiness, since it really serves to detract from our satisfaction with our lot, and is incompatible with a thorough conception of our duty to God, and, therefore, with true piety.

Let others sound the pæan of self-depreciation as they choose; be it mine to proclaim the praises of true self-esteem: not the self-esteem which consists in coxcombical, arrogant, supercilious, and offensive conceit, but in that which gives to a man a perfect consciousness of his own merit absolutely and relatively, that true modesty which makes him think neither too highly nor too humbly of himself, but justly. This is the modesty which Christ taught; this is the modesty which every truly great soul must feel. And when this has deposited in the code of virtues that which has hitherto usurped its legitimate place, then will mankind truly begin to know himself, and we shall, instead of setting up so many gods in the form of men and institutions to fall down to and worship in ignorant and slavish idolatry, discover that we are as gods ourselves, and that in the contemplation of the greatness around us we have failed to discern our own, and thus lost much of that God-like stamp of nobility which was impressed upon us by the Divinity.

J. G. SPEED.

RESPONSIBILITY.

WHY is man responsible?

Because he has an intellectual and moral organization, by the use of which he is prepared to recognise laws, their need, application, and importance, the evil in violating or going contrary to them. They act as a moral monitor over the conduct of men, and are a vigilance committee, a kind of police force, to see that everyone lives up to his duties and obligations.

Man is responsible for all intended, direct, personal influence. An author is responsible for the influence of his writings. If one man is the means of making another a drunkard, or if he has led him designedly into gambling, and to form other bad habits, he is morally responsible for the evil he has inflicted on the man. It is not so bad for a weak brother to lead a strong brother astray as for a strong, well developed man to lead a weak and imperfect brother astray: for the stronger is better able to resist the influence of the inferior than the inferior is to resist the influence of the superior.

As a man increases in knowledge, in wealth, power, and position, so he increases his responsibility : and the greater his influence the greater his responsibility.

There are various kinds of responsibility. Those who have the health, happiness, habits, virtue, and lives of others in charge, and in their power, have great responsibility. A switch-man in the tunnel at the junction of two railroads is responsible for thousands of lives daily ; he is not at liberty there to do as he pleases ; he is under obligation. If he is in a coal-pit with a hundred other men, where there is much floating gas, he has no right to open his lamp and light his pipe. The driver of the coach has no right to drive carelessly with his coach full of passengers. The helmsman has no right to steer his boat among the rocks. The father of a large family of children has no right to set bad examples and do wicked things before his children.

If a man is in a wrong sphere of life and cannot get out of it, but could have kept out of it, then he is guilty for having placed himself in a wrong sphere. If he is a weak brother and, therefore, a creature of circumstances and cannot resist the influences and powers brought against him, he is not so responsible as the strong man who is able to resist and does not. Sins of ignorance and weakness are winked at ; but if persons are wilfully ignorant and have made themselves weak and imbecile by their own indiscretions, that alters their condition.

Some persons are surrounded by circumstances and influences and are in grooves from which they cannot escape if they would. They are not free to do as they would. Some marry unwisely and cannot avoid the result. Certain influences, along with certain inclinations, are quite sure to produce certain results unless strenuous efforts are made to resist the inclination and the influence. Some men foresee the evil and avoid it. Others are drawn into wicked ways, commit sin, see the evil, then repent and turn from their evil ways. Some blindly follow their passions and inclinations whatever they may be, expecting to take the consequences. They murder, knowing the penalty, being bent on revenge. Others sin, knowing that it is wrong ; but they intend to make up for it in some way, or repent for what they have done before they die, with the hope of pardon and forgiveness ; yet they are responsible for the effects of their conduct.

Man is specially responsible to his Creator for the use he makes of his own gifts. If he is well organized in body and mind, and fully developed in all his powers, and could have

made a good and useful man, but instead makes an imbecile of himself, then he is responsible for the waste of his life, and for the good he might have done if he had lived as he ought, and must take the consequences.

Suppose Bunyan or Gough had not reformed and done works meet for repentance, but continued on in that line until death; their responsibility would have been increased greatly. It is both our duty and privilege to make the best possible use of all our gifts both by way of self-improvement and by doing all the good we can.

Every one is born into a world of laws, himself being organized by the action of fixed laws and principles; and every function and organ of the body and every organ and faculty of the mind are sustained in action, and the vital powers are kept in operation according to certain fixed laws, and man is under obligation to comply with these laws, and is accountable in proportion to his ability and power to gain knowledge with regard to these laws. The laws of nature are unchangeable and eternal, although they may be subject to many modifications. Rewards and punishments are inseparably connected with the observance of or violation of natural, physical, and moral laws. Whatever moral or physical law is violated, an appropriate punishment is sure to follow sooner or later.

Nature is very arbitrary, and has no respect for persons. We bring all punishments on ourselves. We are not held in reserve for our Creator to gratify a personal feeling of revenge upon us. But the laws of the universe are such, that if they are violated the consequences must necessarily follow. The punishment is in proportion to the importance and kind of law violated.

What constitutes man's responsibility? The fewer the gifts, the more imperfect, and lower down in the scale, and the more ignorant he is, the less the responsibility he has. The powers of animals are simple, few, and low, and their responsibility is in proportion.

Man's powers are varied, numerous, high, and noble, as well as more complicated than those of animals. Man is accountable as to how he uses his abilities. He is culpable if he neglects to cultivate and improve his talents, or if he perverts their use. Man forms habits and yields to inclinations which lead to excesses and thereby impedes rather than promotes permanent enjoyment, for all excesses end in disease and demoralization, which is contrary to the order of nature. The stronger the constitution the more difficult it is to break or ruin it, but when broken it is all the more difficult to repair it.

Surface evils are easily disposed of as well as easily seen. The effects of some evils are seen and experienced at once, while others are like the slow poisoning of the blood, the effects are sure and terrible although not visible at first. Man by his bad examples, influences, and actions injures and destroys more men than are destroyed by the derangements and disorders of nature. The hot sun, thick fog, and severe frost, the flood, earthquake, and tornado destroy many, but the sword, dagger, bullet, poisonous drink and wreckless immoral life destroy many more.

It is the business of some men and women to live on the ruin and destruction of others, and some have made it a successful art to ruin others. To pursue pleasure for the mere sake of pleasure, to join clubs, to meet together only to be jolly, by joking, smoking, and drinking, is to get into a snare that is binding, and the longer the chains remain the less inclined is a man to resist its pressure. Those who start and keep up these clubs of dissipation are greatly responsible for the consequences.

Spiders build beautiful webs to catch flies for their food. So men build very attractive places, and highly decorate them and fill their decanters with choice drinks to draw in and ensnare as many as possible. By some, these places are called dens of infamy, and gambling hells.

Man cannot live without filling a place in the moral world as well as the physical, and leaving a mental photograph behind him and making his mark on the page of history. Inferior classes are under some obligation to improve, and those more highly organized and favoured should feel it their duty to assist them in developing and guiding their powers.

L. N. F.

A RARE SKULLERY.

THE many repositories of human remains existing in various places on the continent present a most interesting field for the researches of the scientific, and to none a richer one than to the phrenologist. The pious labours of the monks of the Middle, and even earlier Ages, in preserving relics of the departed in their numerous cloisters and institutions, and which are still kept with a superstitious veneration in churches and cathedrals by their successors, are now being made available. In such collections Carl Vogt and other distinguished researchers have directed the phreno-anthropologist to an important mission—the solution of the problem of the cha-

racter of unrecorded or geological peoples. To our race the ancient European remains are, of course, the most valuable as from them are we, to a great extent, descended, and from them we can tell almost the exact mass of our intellectual development. In this respect the collections of the Catacombs of Paris and Rome may indeed be considered rare treasures. The former has already been examined by Vogt, and astonishing proofs for the truth of the historical development of the brain found. Another collection, probably the most interesting of any on the whole continent, more especially because of the legends and history connected with it, is in the curious old church at Cologne, dedicated to Saint Ursula and the 11,000 virgins.

It was somewhat late in the afternoon as I entered this edifice of skulls. Mass had just been celebrated, and, though a week-day, I met many people coming away who appeared perfectly unconcerned at the many death-relics around them. I stood on one side of a kind of lobby, in order to allow the crowd of worshippers—the poor, the lame, the halt—to pass, when my gaze was riveted upon the walls around me. In iron-grated compartments a vast number of skulls were seen through the dust-covered glass panes which enclosed them, while nearly one entire wall, instead of being plastered with ordinary cement, was completely covered with a sort of inlaid work of human bones arranged in a most curious manner. An old priest-like guide came and offered his services in going through the church, and led me into the centre aisle, where were other cage-like compartments let into the masonry also containing skulls, one appearing between each grating. These cases, numbering about twenty, almost entirely surrounded the body of the church, each containing about twenty-four skulls. In two opposite side-aisles were four larger cases, containing each one hundred and twenty skulls. On each side of the choir were five cases, and still others stood in different parts of the church. Besides these were colossal stone urns, one of which measured fifteen feet long by six broad and seven or eight feet high, filled completely with human bones. On the top of one of these were placed the statues of two early bishops of the church like guardians over the sacred relics. Our guide was full of the history of the place, mixing legend and fact and history at every point, and, after showing us an incalculable number of skulls and bones, said that sacred remains were also buried in great quantity under the very pavement.

"How many skulls do you suppose are contained in the church?" I asked.

"At least eighteen hundred," he replied ; "but the bishops of the church have presented many hundreds to other churches. Many have been sent into Switzerland, France, England, and also America, there to be preserved as mementoes of the saints."

"The number of skulls," I said, "would appear to vouch for the truth of the legend connected with St. Ursula. Do you really believe the truth of it, and that these are the skulls of St. Ursula and her 11,000 virgins?"

"Certainly," he answered, "and I will give you a true account of them."

With this he handed me a neat little pamphlet, written by a priest of the church, containing the legend, or rather legends—for there are many versions—and which I cannot do better than communicate here before we proceed further. We give the two chief ones in the order in which we find them.

THE LEGEND OF ST. URSULA.

"St. Ursula, according to the legend of Surius (written before 1111), was born in Great Britian, of Christian parents. King Dionetus Maurus was her father and Daria was her mother. Ursula was both virtuous and beautiful; she drew upon herself the admiring gaze of all the surrounding princes; and Agrippinus, a neighbouring king, would fain secure her for his son Conanus. But Ursula had in the tenderest years of her maidenhood affianced herself to God, and she therefore opposed the proffered marriage with the heathen Conanus, rightly fearing that the union would stain the purity of her faith and hinder her in the fulfilment of her religious duties. She was firmly determined not to marry him, and should misfortune thereby come upon her father's house and people, the wrath of the haughty and powerful King Agrippinus would not influence her. But, in the midst of her anxiety, a vision came to her aid in a dream, in consequence of which she declared her willingness to marry, with the condition, however, that three years should first elapse; that she should be allowed to choose ten companions from among the most honourably descended maidens of the land, and that she herself and each of her ten selected companions should be accompanied by a retinue of a thousand female companions, for whom a flotilla of eleven three-oared ships should be placed at disposal.

"When the flotilla was ready, the pilgrims started from their homes, and were engaged for some time, to the great amusement of the court and people, in pleasure excursions along the English coast. But Ursula did not thereby neglect

to exhort her followers to the service of Christ. Meanwhile, as the time appointed for her marriage with Conanus was fast approaching, there arose (in answer to the fervent prayers of the young women) a violent storm, which drove the flotilla upon the coast of Holland. Ursula now appears to have determined to go to Rome, and the pilgrims were fortunately enabled to commence their journey up the Rhine. From Cologne to Basle the journey was prosperous; everywhere they were kindly received, and, in the latter city, upon the invitation of Bishop Pantalus, they left their ships and were conducted by him across the Alps, and at last reached Rome in safety. Here they visited the graves of the martyrs. Many who had not yet been received into the bosom of the holy Church, now, seized with powerful emotion, longed after Christian instruction and holy baptism.

"Inspired with the consolations of Christianity, the virgins now left Rome, accompanied by Cyriacus and many others. After reaching Basle, the company descended the valley of the Rhine as far as Mayence. Here they found Conanus, who had hastened in pursuit of his bride, having followed the example of the virgins by embracing Christianity and being baptized by Pantalus, and receiving the name of Etherius. The entire band now descended the river to Cologne, and, as they were about to land, they were fallen upon by barbarian hordes, and Ursula, who refused to break her vows at the bidding of the Huns, was pierced by an arrow, and all her companions horribly mutilated."

Such is one tradition connected with the skulls. The date of this occurrence is not at all defined. Some place it in the year 237, others 383, and more in 451. Another report, resting upon the account of Galfried of Monmouth, who wrote a history of Britain in 1130, is said to have been discovered in the Vatican in the middle of the twelfth century, and was believed to contain the original Ursula history. It is contained in the brevier of the Benedictines:

"After the time of the Emperor Gratian, a Christian and son of the Emperor Valentinian, who succeeded his father from 378 to 383, and was then murdered by Andragathio, Maximus' general; and after Flavius Clementius Maximus, commander of the Roman legion stationed in Great Britain, had been proclaimed emperor by the rebellious soldiery, and had usurped the chief control, he sent troops to Gallia (Gaul), where the people had been enemies of Gratian, but where they found a friendly reception. It came to pass that Maximus held this dominion. The colonists of the country were then driven off, and the fruitful lands divided among the

soldiers who had been brought over from Great Britain. Regulus, commander of the British, by the advice of Conanus, a chief of the army, sent an ambassador to England with the mission to demand as many young maidens as would be necessary to marry with the military colony. The inhabitants of Great Britain received the request favourably; they saw that by consenting they would gain the good-will of the Emperor, and that their daughters were likely to fare well with the soldiers now made rich by gifts of land. So a number of the young maidens, corresponding to the number of the military colony, were selected.

"The highest among them was Ursula, daughter of Dionetus, King of Cornubia (Cornwall). She was engaged to marry Conanus, a chief of the British cohorts in the service of Maximus. The gathering place of the maidens was London, where they were brought against their will upon ships, which, as they left the haven, were steered toward the land of the Armoricans (the ancient name of the Gallic provinces), but were driven upon the German coast. The Huns, whom the Emperor Gratian had called to his aid against Maximus, had now possessed themselves of this part of the country. The term, Huns, here is not astonishing, for all barbarous people who broke into the circle of the Roman sphere received the by-name of 'Huns,' as did the Alanis, the Ambrons, and the Picts; although the name 'Huns' is only applicable to those who about the year 372 left the Sea of Azov, overran Hungary, and first pressed forward toward the Rhine under their leader, Attila, about the year 451. These barbarous hordes fell upon the band led by Ursula, which, in order to preserve their virgin purity—the most precious treasure of their heart—showed undaunted courage. All were murdered. The inhabitants of Cologne interred the corpses of the holy virgins amid the greatest honours. The Christian world celebrates the memory of their laudable conflict with ever-renewed splendour on the 21st of October. One of the virgins, Cordula, seized with fear at the nearness of death, hid herself in the ship's hold, but full of regret, and encouraged by the heroic example of her fellow-pilgrims, bid defiance to death, and on the following morning was also murdered."

Which of these legends is the true one, we cannot say. It is merely our intention to state them as we find them. My companion was evidently of the firm belief that the former contained more evidences of truth; at any rate, it better suits the tendencies of saint-worship introduced by the early monks throughout Europe. But we will leave them for the present and follow our old guide, who, after pointing out the various

relics in different parts of the church, finally halted before a most beautiful marble monument a little to one side of the centre aisle. This was St. Ursula's monument. It is of exquisite workmanship; the base of black marble, with white slabs on the side, while on the top rests the form, cut in pure white marble, of the saint herself. She is clothed in queenly robes, fastened by a delicate clasp on a slightly elevated breast, while her hands are placed in a gentle attitude of repose. The face is delicately chiselled and idealistic. A mass of wavy hair falls upon the cushion on which her form reposes, a crown is placed upon her head, while at her feet sits a white dove—emblem of innocence. The inscription is :

Sepulchrum St. Ursulæ,
Indicio columbæ detectum.

Joannes Crane Sac. Cæs. Maj. Consilarii Imp. Aulicus et Maria
Verena Hegemileren congu-jes hoc vivo marmore includi fecerunt Ao.

1659.

The name of the artist is also engraved. J. F. W. Lentz Crane, it appears, was for a long time an ambassador of the Emperor in Cologne, and he and his wife became distinguished for their many good deeds. He was born in the Protestant faith, but afterwards joined the Roman Catholics, and became zealous in their behalf. The dove sitting at the feet of the saint has also its history, commemorating, it is said, the appearance of a white dove in the church and its alighting upon the head of Bishop Cunibert (626-668) while he was celebrating mass, and afterward flying around the church, and at last resting upon one of the graves of the virgins. This spot is now covered with the beautiful monument to St. Ursula, as the bird was then regarded a heaven-sent messenger to point out the exact part of the church in which she lay.

The same event is also recorded in a fresco in the choir and in other paintings. Indeed the latter are quite a feature, and the walls are almost encircled with them. Commencing with a series of old German paintings on slate (1224), and intended to represent the Twelve Apostles, that remind us of the present state of Abyssinian art, we pass in review a number which our guide tells us are "historical paintings, giving a true account of the life, voyages, and death of the virgins." The first series, to the number of about twenty of these, extend around the choir, the closing scene of which is the martyrdom of Ursula, pierced by an arrow, as she stands erect in her boat. The most remarkable feature in a second series is the great size of the heads of all the sainted band in proportion to their bodies. Ursula's is a life-size statue placed

beneath the organ; a queenly, ideal figure, with robe and crown, pierced in her bosom by an arrow, from the wound of which trickle drops of blood.

THE GOLDEN CHAMBER.

Leaving the body of the church, passing through a curious lobby, among immense stone urns or coffins, supposed to be filled with bones, we come to the climax of the whole collection—the treasures of the Golden Chamber. Amid this confusion of skulls, bones, urns, and relics, we begin to feel—or at least ought to—the “holy awe which is inspired by the place. . . . The voice of the past here raises itself powerfully and beats admonishingly upon the ear; even the cold, lifeless stone speaks to us and discloses its safe testimony of the deeds of antiquity.” We are now fairly within the goal of our paradise—a room about the size of a large parlour, but lofty and paved with stone. The tinsel magnificence and death-like relics here brought together—many hundreds of skulls in rows in a high case covering an entire side of the room, on the opposite side gilded and silvered busts with other skulls, and an entire wall covered with inlaid work of human bones—forming a surprising contrast to the many beautifully ornamented curiosities arranged on tables, and to which our guide first draws attention. To describe them all would require a moderate-sized pamphlet.

The largest shrine, of exquisite workmanship, church-like in shape, with forms of bows and arrows enamelled thereon, is said to contain the body of St. Ursula herself, upon which, however, we were not permitted to gaze. In a cylinder with crystal ornaments is contained, it is said, some of the blood of the virgins, together with a particle of the staff of Christ. In a similar case are particles of the garment and linen of St. Ursula, while close by is her right arm, now shrivelled and brown, in an unornamented glass cylinder. Her foot is contained in a beatiful little ivory case, on which are artistically carved events from the history of her life. The very arrow with which her breast was pierced by the wretched barbarians—the iron head of which is now nearly rusted off—and her hair-net are preserved in an ivory case of antique workmanship, while a mass of earth mixed with sainted blood is contained, like numerous other relics, in crystal-ornamented cases. All contain something supposed to have had a slight connection with the holy band—one article being thus entitled: “The ring of St. Ursula, on which is still unknown writing, but in the highest degree probably the name of St. Ursula and Etherius.”

But the Golden Chamber is not alone devoted to relics relating to the Ursula band. Here are to be found sacredly preserved a few particles from the crown of thorns once worn by Christ. Here, too, is one of the pitchers that once did service at the marriage feast at Cana, in which water was turned into wine, the handle of which is wanting, but which, we are told, is still preserved in the Notre Dame at Paris! This article is of alabaster, and "a reliable eye-witness who went to Cana assures us (the proprietors of the curiosity) that there are only five of these vessels still in Cana, and this sixth, in the Golden Chamber, has the greatest resemblance to them." Here stands beside it a tooth that once did good service for St. Appolonia. But—how much to be regretted—we are told that the most curious and interesting articles were earlier given away or abstracted from the church. One of the pieces of silver, for which Judas betrayed his Master, was taken away by one of the last Electors of Cologne, an irredeemable collector of coins. But the anger of St. Ursula was invoked upon the sacrilegious wretch, and he was compelled to reimburse the treasury of the church to the extent of twenty thousand dollars, a poor recompense for such a treasure. Even as late as 1837, some one stole what represented a particle of the cross of Christ and a piece of the purple cloth worn by Him in the house of Pilate.

THE SKULL OF ST. URSULA.

The greatest treasures of all are contained in the richly ornamented glass cases upon a table reached, throne-like, by ascending a few steps. These are a few of the skulls-elect, and have been more beautifully ornamented than any of the six hundred and twelve contained in the cases of the Golden Chamber. Turning to my guide I asked him to point out to me the skull of St. Ursula herself. I doubt very much whether the ancient monks, or even those of to-day, know the skull of a man from that of a woman, and I had almost imagined that I would find a masculine one palmed off as the true Ursula. But my preconceptions were false. Only a very small portion of her skull is preserved and encased in a diadem of highest worth. There is probably some truth in the legend after all, I thought, but I was happily disturbed in my old spiritual friend. "This is a part of the holy Ursula's skull," said he, with becoming gravity, "the other parts are lost, but this is from the back part of her head"—and he placed his hand to his own in explanation. The only portion of the skull preserved is that which represents the region of Philoprogenitiveness, Conjugal Love, Inhabitiveness, and

Friendship, tapering up and reaching a large development in the two latter organs.

The disappointment at not finding the whole of St. Ursula's skull was, however, somewhat lessened by the number of those of her companions and of priests and bishops once connected with the church or procured as relics from other places. The most of these, however, are unknown in history, and a description of them would only prove tedious. I will enumerate merely a few. There is the skull of St. Etherius, bridegroom of St. Ursula; of St. Cordula; St. Jacobus, patriarch of Antioch and a martyr of the band of St. Ursula; of St. Pantalus, first bishop of Basle; St. Benedicta, a duchess and commander of a cohort of the saintly legion, who had the misfortune to have her skull split into two portions; St. Ursula the second, a neice of the real saint, on which some hair yet remains; St. Berthima, a negress; St. Aurelius, King of Sardinia; besides cardinals, archbishops, bishops, priests, dukes, and soldiers. In each of the one hundred and twenty gilded or silver busts placed around the Golden Chamber is to be found one skull, many of these, it is said, being decorated with "precious stones." These busts appear to have been specially made for the purpose of containing the relics. The features represented on them are of one type, though some remarkable physiognomies of ecclesiastical persons are observable.

SIZE OF THE SKULLS OF THE SAINTS.

The large glass-fronted case, occupying an entire side of the room, contained the already mentioned six hundred and twelve. The lower part of each skull was covered with decayed red velvet, tastefully worked with beads (pearl), said to have been done by the nuns of a neighbouring cloister some hundreds of years ago. This is not at all improbable, and doubtless it was a religiously imposed task to them. But I could not help thinking how much of their labour had probably been spent upon skulls of the "infidel Huns," as there were certainly many that had little similarity to the woman-type. To describe an individual among this mass, however, would be no criterion for the whole. I obtained permission to take down a few of the dusty relics, and took the opportunity of measuring them. The result was an average of less than $20\frac{1}{4}$ inches, with but little variation. Some came below 20, and others reached $20\frac{1}{2}$ —only one going higher. An exact measurement, however, was very difficult owing to the velvet decoration of the skulls, allowance for which would reduce the above measurements about

half an inch. The average then would be less than 20 inches. These measurements were not scientifically made, and the mere circumferential size gives no idea of the very marked flatness of the skulls. There were two, however, which greatly differed from the rest—St. Jacobus and St. Margaret. The latter struck my attention on account of its small size. It was under a glass case among the select, and beautifully decorated with velvet and “pearls of great price.” Like the rest, it is very wide between the ears, bulging out at Caution and Destructiveness, and tapering off thence on all sides toward the forehead. I found its circumference, including the beads and decorations, $18\frac{1}{2}$ inches—certainly the smallest in the whole assembly. The skull of St. Jacobus, patriarch of Antioch, a martyr of the band, was just the opposite. His was narrow at the sides, with a tolerably high central ridge, and long—very long—when compared to the others, and showed a higher degree of intellectual development than any of the rest. This skull measured $21\frac{1}{6}$ inches—no others coming within three-quarters of an inch of that point. He, it appears, attended to the interment of many of the saints after their massacre, had the names of some engraved on soft stone monuments erected over their graves; but was himself shortly afterward beheaded.

The excessive size of the organ of Caution, as found in the majority of the skulls, would appear to harmonize with the generally accepted popular tradition in Cologne of a Hun massacre. One of the very oldest traditions plainly indicates that these people, under their leader, Attila, were the perpetrators of a massacre as they flew in great disorder toward the Rhine after the battle of Chalons in 451. The inhabitants, especially the women, fled in masses before the unbridled hordes, and the Roman Catholic writers have made many endeavours to bring the appearance of St. Ursula and her train in Cologne to correspond with this time. Popular tradition has much in its favour, although the other legend can not be positively refuted. A street near to the church is called the *Hunnenrücken-strasse* (Huns' back street), where, it is supposed, the backs of the Huns were last seen as they went away.

We trust the time is not far distant when these relics shall be thoroughly examined by scientific phreno-ethnologists. Professor Owen is said to have detected the bones of animals among those that are kept in the church, but he certainly could not find other than human skulls.

“For how much will you sell a few of these skulls?” I asked of my friendly guide.

The old man asked me to repeat this question, overcome, I believe, by its apparent audacity.

"Will you sell me a few of these old skulls?" I remaked again. "I am much interested in the legend and your church, and would like to preserve them as mementoes of my visit."

The old priest drew back in astonishment.

"Sell them! Sell them! Why, sir, we cannot—we dare not! Just let me read you our order, and which we dare not disobey: 'No one, whatever his standing may be, even be he clothed in archbishop's robes, dare sell the relics of the holy Ursula—neither sell nor buy, under penalty of excommunication.' We never sell them," he repeated, "but the bishop of the church has the power to give them away."

Fearing that my mission to the bishop would not prove successful, I failed to prosecute the task. I now offered to pay my kind old guide for his trouble. His regular fee was about twenty-five cents. I offered him a trifle for himself, which, however, he firmly refused. I must have detained him for above an hour, as the shadows were already stealing into the old dismal walls. The Golden Chamber, which appeared so tinselly on my entrance, had assumed a cold and gloomy appearance, brightened only by the reflected gleam of the gilded busts in the twilight. We returnd into the body of the church among its stone-cased relics and caged skulls. The old priest-guide reverently bowed as we passed under Ursula's form. I glanced up to her beautiful countenance, and once more wandered around the attractive objects. At last I bid my guide adieu, for we could no longer see distinctly—only the gray skulls through their dismal grating—and I breathed freer again when we emerged into the lighted streets and left behind St. Ursula, her saints, and the Golden Chamber.

J. P. J.

METAPHYSICS AND PHRENOLOGY.

PART I.

IT is well to define terms, as man thinks with language. Every word has a specific meaning (it TALKS to us), either naturally or verbally; and it is impossible to have clear and distinct thoughts unless words convey to the reader the same ideas as are intended by the writer.

By the word "Mind," is meant the "Human Intelligence"—the "Soul": not Mentation, or a "Something," or an "Anything," the result of exquisite elaborations of matter,

according to certain physical and organic laws; but a psychic element of a higher order—a spiritual being in fact, having an existence independent of any kind of outward organization, though, for the purposes and ongoings of this earth-life, it manifests its marvellous powers and susceptibilities through that strange and wondrous piece of mechanism—the human brain. It is the varied actions of this “Soul” or spirit-man, without taking into account its grand instrument, the Brain, which hath been arranged and divided into faculties, powers, and susceptibilities, and called by philosophers “Mental Science.” This speculation of human nature has occupied the subtlest intellects from the days of Aristotle, and, probably, for thousands of years before, up to our own time, but with only a limited amount of success. Gall, Spurzheim, and Combe have demonstrated their methods to be one-sided, and of necessity pregnant with many false and erroneous results. Whatever is true in pure “Mental Science” has been arrived at, by the imperfect methods just alluded to, and it is wonderful so much truth has been reached. Physiologico-mental science, commonly known as phrenology, has demonstrated, to candid inquirers, and to all unprejudiced thinkers, that the soul, in this life, uses *certain parts of the brain for certain manifestations of intellectual emotion and social powers*; just, as it uses the eye, when it wishes to gaze on the starry heavens; or the ear, when it listens to strains of music; or the olfactory nerve, when it is regaled with the perfume of flowers. The soul, with its spiritual endowment, is really, the MAN; the body being only the material covering by which it makes itself known for earth-life purposes and convenience.

The old-school philosophers have, as we have stated, made many important discoveries; but, not considering the Brain as the instrument or medium of the spirit’s action in this life-key, have confounded *simple*, with *compound* thoughts and *feelings*, and, in this way, have been lead into many grave errors.

There is no system of mental philosophy that does not contain a great deal of phrenology, so-called. It must be so. The acute intellects which, in all ages, have reflected on the actions of their own spirits, could not but evoke certain great truths from this ideal mode of investigation. The best course of mental physics which has appeared in this department of literature are the lectures of Dr. Thomas Brown, the distinguished professor of moral philosophy in the University of Edinburgh, and his views, in many respects, are so near the facts arrived at by the inductive methods of Dr. Gall, as, in

their great leading features, to be almost phrenology under a different kind of nomenclature. The analytic mind of Dr. Brown has arrived at conclusions which phrenologists have reached only by a long series of accumulated observations, now acknowledged to be, ULTIMATE FACTS, in the philosophy of Man. Hence it follows, that to deny the truth of phrenology is to deny the mental philosophy of Dr. Brown ; and, therefore, the followers of Dr. Brown and Dr. Gall must stand or fall together. The belief in the one system, in all its chief departments, is the belief of the other. The denial of the cerebral physiology of Gall is, in fact, the denial of the mental physics of Brown.

We shall now point out, more particularly, the agreement and difference in the philosophy of Brown, the acknowledged standard of the metaphysical school, and that of the illustrious Gall, the discoverer of phrenology.

Whatever the mind feels is only the mind existing in a certain state. There is not a thought and the mind besides ; a sensation, and the mind besides. A thought, is the mind thinking ; a sensation, the mind feeling. All the varied powers and susceptibilities of the human spirit, Drs. Brown and Gall have divided into three separate classes, because they are felt to be generically distinct, called by

DR. BROWN.

- 1 Simple suggestion.
- 2 Relative suggestion.
- 3 The emotions.

DR. GALL.

- | |
|--------------------------------------|
| The knowing or perceptive faculties. |
| The reflective faculties. |
| The sentiments and propensities. |

Under different names, the grand divisions are the same. A difference, however, obtains, in regard to some of the minor classes, the genera and species into which these are subdivided, as might be expected ; the one, arriving at his ultimate conclusions by the force of a powerful analysis ; the other, by careful and long observation. Dr. Brown's view is, that the thoughts, powers, and feelings of the mind, are only the mind in different states ; and Gall's, that the different portions, or organs of the brain, are connected with the primitive thoughts, emotions, and sentiments. Dr. Brown says nothing about cerebral organs : he says, that a thought is *a state of the mind*, not the mind itself—*a state of the mind*. Gall says a great deal about organs, but he never says that an organ, or any state of an organ, *is the mind*. The former, that a state of the mind is *not the mind* ; the latter, that the state of an organ is not the mind. They both believe that the mind itself is a simple, indivisible being. What the soul is, independent of its states, Dr. Brown knows not. What the soul is, independent of the cerebral organ, Dr. Gall knows not.

What the soul is, we cannot know at this stage of our Being. To inquire would be to overstep the boundary line of inductive philosophy. The difference, then, between Brown and Gall seems to be, that the former, considers the varied thoughts, feelings, and conceptions, as relations of the simple substance mind to its own former states, or to external objects ; the latter, considers the varied thoughts, conceptions, and feelings, as relations of the simple substance mind to certain parts of the Brain or the Encephalon : the former, the relations of mind to its own former states ; the latter, the relations of mind to the brain : the one, relatively *to its own states* ; the other, relatively *to the brain*. This is the fundamental difference between the two philosophies. Take an example to show the bearing of this, by way of illustration. In looking upon any object, as snow, we have the notion of a certain colour. Now, the notion is *not* in the snow, but in the mind. That is, the notion of colour is the mind existing in a certain relation to an external object—snow. But it is allowed, on all hands, that there is an intervening step between the snow and the mind. There is an affection of the optic nerve. The notion of colour, then, is the mind existing in a certain relation to the optic nerve. It will be conceded that this does not alter the question, as to the simplicity of the mind. And if this is conceded, it is abundantly obvious that another step in the process might be conceded, without taking away from the simplicity of the immaterial part ; and that, instead of the optic nerve being the immediate antecedent of the notion of colour, it might be a particular portion of the encephalon, the organ of Colour. As the notion of colour, upon this supposition, is a relation of mind to the organ of Colour, it follows that if that organ were changed in any respect, the state of the mind would also be changed. Thus, if it were larger, of a finer structure, or more active, the perception of colour would be more delicate, or quick, or pleasing.

Again, in looking at a bust, say, the embodiment of Milton's magnificent conception of Satan defying the sun, we have, with the perception, the notion of a certain form. Now, the notion is not in the bust, but in the mind. So far there is the notion of form existing in relation to a certain object. All admit that there is an intervening step between the bust and the mind, viz., an affection of the nerve of the eye. The notion of form now exists in relation to the nerve of the eye. If, instead of its being the nerve of the eye, we take another step, and say that the immediate antecedent is a certain part of the brain, and not the nerve of the eye, we have then the notion of form standing in relation to a certain part of the

cerebral mass, viz., the organ of Form. If this organ be large or small; active or inactive—and all individuals vary in these respects—the perceptions of form will be more delicate, or quick, or pleasing.

Take a final illustration from the reflective range of faculties, where the mind exists in relation, not to an external object, but to a previous state of thought, or feeling. Two conceptions arise in the mind. We perceive an analogy betwixt them. The analogy resulting, is the mind existing in relation to a previous state. The latter feeling has a felt relation to the former. Now, if instead of its being the previous mental state which is the antecedent of the analogy, we say a certain part of the brain is the immediate antecedent, we have a feeling of analogy existing in relation to a certain part of the brain, viz., the organ of Comparison. If the organ be large or small, active or inactive—and both size and intensity vary in every individual—then there will be a corresponding facility or difficulty in tracing out relations of this order. This process, it is evident, might be carried on with all the organs of the brain; and a most excellent mental exercise it would be to point out all these relationships.

In both philosophies, all we know is simply a Relation ; and all we ever can know of mind is a system of Relations. The reference, as to *the source of feeling*, constitutes the only difference. Mental philosophy, except in the case of the senses, refers them to previous states of mind: phrenology traces them to certain parts of the brain. In this alone consists the difference between the schools of Drs. Brown and Gall—between the old and the new physiology of mind.

From these remarks, we may gather that phrenology is not a clap-trap science, that can be taken up and understood, in its higher departments, by any one, who, in the sovereignty of his self-esteem, condescends to lend his mind to its statements. To excel in it, requires a peculiar organization, as in music, painting, sculpture, the mathematics, or in any other art or science. Being able to prattle over the names of the organs, is not knowing physiologico-mental philosophy—a science which, while it includes all that is correct in the olden and modern metaphysics, possesses, at the same time, an inherent power of discovery, to which the other can legitimately lay no claim. Phrenology embraces all that is truth in metaphysics, but metaphysics cannot include all that is true in phrenology. The one, stands on a vantage-ground, which it is impossible for the other entirely to reach; for phrenology hath its foundation in the human brain, the finger-work of Deity—the medium, along with the seven senses,

whereby that mysterious and wonderful spirit within, is destined to manifest itself in this state of existence.

Such, then, is the connection between advanced mental philosophy, and the science of phrenology ; the one, traces all its relationships to its own former states ; the other, to certain parts of the brain. Indeed, so intimate a relation subsists between the two schools that, although proceeding from different sources, we find them often running parallel in their varied manifestations, and, in fact, the streams not unfrequently commingle. In other parts of their course, however, we find them taking widely different circuits ; the one, getting amongst the sands of error, is either wholly absorbed or exhales away, producing a mistiness through which little can be seen ; the other, since parting company, rolls onwards through the valleys of induction, fed by this streamlet of fact, and by that rivulet of observation, deepening and widening its course with every tributary addition, and still advancing with a constantly gathering force, till, in due time, it discharges its accumulated generalizations into the great ocean of truth—the Rational Philosophy of Man.

SUBSTITUTE FOR TEA.

TAKE eight parts by weight (say ounces) of meal (Rumford says "wheat or rye-meal," and I add, or oatmeal), and one part of butter. Melt the butter in a clean *iron* frying-pan, and when thus melted sprinkle the meal into it ; stir the whole briskly with a broad wooden spoon or spatula till the butter has disappeared and the meal is of an uniform brown colour, like roasted coffee, great care being taken to prevent burning on the bottom of the pan. About half an ounce of this roasted meal boiled in a pint of water, and seasoned with salt, pepper, and vinegar, forms "burnt soup," much used by the wood-cutters of Bavaria, who work in the mountains far away from any habitations. Their provisions for a week (the time they commonly remain in the mountains) consist of a large loaf of rye bread (which, as it does not so soon grow dry and stale as wheaten bread, is always preferred to it) ; a linen bag, containing a small quantity of roasted meal, prepared as above ; another small bag of salt, and a small wooden box containing some pounded black pepper ; and sometimes, but not often, a small bottle of vinegar ; but *black pepper* is an ingredient never omitted. The rye bread, which eaten alone or with cold water would be very hard fare, is rendered palatable and satisfactory, Rumford thinks also more whole-

some and nutritious, by the help of a bowl of hot soup, so easily prepared from the roasted meal. He tells us that this is not only used by the wood-cutters, but that it is also the common breakfast of the Bavarian peasant; and adds that "it is infinitely preferable, in all respects, to that most pernicious wash, *tea*, with which the lower classes of the inhabitants of this island drench their stomachs and ruin their constitutions." He adds that, "when tea is taken with a sufficient quantity of sugar and good cream, and with a large quantity of bread-and-butter, or with toast and boiled eggs, and, above all, *when it is not drank too hot*, it is certainly less unwholesome; but a simple infusion of this drug, drank boiling hot, as the poor usually take it, is certainly a poison, which, though it is sometimes slow in its operation, never fails to produce fatal effects, even in the strongest constitutions, where the free use of it is continued for a considerable length of time."

This may appear to many a very strong condemnation of their favourite beverage; nevertheless, I am satisfied that it is perfectly sound. This is not an opinion hastily adopted, but a conclusion based upon many observations, extending over a long period of years, and confirmed by experiments made upon myself.

The *Pall Mall Gazette* of Aug. 7, says:—"There is balm for tea-drinkers in one of Mr. Mattieu Williams's 'Science Notes' in the *Gentleman's Magazine*." This is true to a certain extent. I referred to the Chinese as habitual drinkers of boiled water, and suggest that this may explain their comparative immunity from cholera, where all the other conditions for a raging epidemic are fulfilled. It is the boiling of the water, not the infusion of the tea-leaves therein, to which I attribute the destruction of the germs of infection.

In the note which follows, I proposed an infusion of fried or toasted bread-crumbs, oatmeal, maize, wheat, barley, malt, &c., as a substitute for the tea, the deep colour of the infusion (poured off from the grounds in this case) serving to certify the boiling of the water. Rumford's burnt soup, taken habitually at breakfast or other meals, would answer the same purpose, with the further advantage to poor people of being, to a certain extent, a nutritious soup as well as a beverage. All that is nutritious in porter is in this, minus the alcoholic drug and its vile companion, the fusel oil.

The experience of every confirmed tea-drinker, when soundly interpreted, supplies condemnation of the beverage; the plea commonly and blindly urged on its behalf being, when understood, an eloquent expression of such condemnation. "It is so refreshing"; "I am fit for nothing when tea-

time comes round until I have had my tea, and then I am fit for anything." The "fit for nothing" state comes on at five p.m., when the drug is taken at the orthodox time, or even in the early morning, in the case of those who are accustomed to have a cup of tea brought to their bedside before rising. With blindness still more profound, some will plead for tea by telling that by its aid one can sit up all night long at brain-work without feeling sleepy, provided ample supplies of the infusion are taken from time to time.

It is unquestionably true that such may be done; that the tea-drinker is languid and weary at tea-time, whatever be the hour, and that the refreshment produced by "the cup that cheers" and is *said* not to inebriate, is almost instantaneous.

What is the true significance of these facts?

The refreshment is certainly not due to nutrition, not to the rebuilding of any worn-out or exhausted organic tissue. The total quantity of material conveyed from the tea-leaves into the water is ridiculously too small for the performance of any such nutritive function; and besides this, the action is far too rapid, there is not sufficient time for the conversion of even that minute quantity into organized working tissue. The action cannot be that of a food, but is purely and simply that of a stimulating or irritant drug, acting directly and abnormally on the nervous system.

The five o'clock lassitude and craving is neither more nor less than the reaction induced by the habitual abnormal stimulation: or otherwise, and quite fairly, stated, it is the outward symptom of a diseased condition of brain produced by the action of a drug; it may be but a mild form of disease, but it is truly a disease nevertheless.

The active principle which produces this result is the crystalline alkaloid, the *theine*, a compound belonging to the same class as strychnine and a number of similar vegetable poisons. These, when diluted, act medicinally, that is, produce disturbance of normal functions, as the tea does, and, like theine, most of them act specially on the nervous system; when concentrated they are dreadful poisons, very small doses producing death.

The non-tea-drinker does not suffer any of these five o'clock symptoms, and, if otherwise in sound health, remains in steady working condition until his day's work is ended and the time for rest and sleep arrives. But the habitual victim of any kind of drug or disturber of normal functions acquires a diseased condition, displayed by the loss of vitality or other deviation from normal condition, which is tem-

porarily relieved by the usual dose of the drug, but only in such wise as to generate a renewed craving. I include in this general statement all the vice-drugs (to coin a general name), such as alcohol, opium, tobacco (whether smoked, chewed, or snuffed), arsenic, haschisch, betel-nut, coca-leef, thorn-apple, Siberian fungus, maté, &c., all of which are excessively "refreshing" to their victims, and of which the use may be, and has been, defended by the same arguments as those used by the advocates of habitual tea-drinking.

Speaking generally, the reaction or residual effect of these on the system is nearly the opposite of that of their immediate effect, and thus larger and larger doses are demanded to bring the system to its normal condition. The non-tea-drinker or moderate drinker is kept awake by a cup of tea or coffee taken late at night, while the hard drinker of these beverages scarcely feels any effect, especially if accustomed to take it at that time.

The practice of taking tea or coffee by students, in order to work at night, is downright madness, especially when preparing for an examination. More than half of the cases of break-down, loss of memory, fainting, &c., which occur during severe examinations, and far more frequently than is commonly known, are due to this.

I frequently hear of promising students who have thus failed; and, on inquiry, have learned—in almost every instance—that the victim has previously drugged himself with tea or coffee. Sleep is the rest of the brain; to rob the hard-worked brain of its necessary rest is cerebral suicide.

My old friend the late Thomas Wright was a victim of this terrible folly. He undertook the translation of the "Life of Julius Cæsar," by Napoleon III., and to do it in a cruelly short time. He fulfilled his contract by sitting up several nights successively by the aid of strong tea or coffee (I forget which). I saw him shortly afterwards. In a few weeks he had aged alarmingly, had become quite bald, his brain gave way and never recovered. There was but little difference between his age and mine, and but for this dreadful cerebral strain, rendered possible only by the alkaloid (for otherwise he would have fallen to sleep over his work, and thereby saved his life) he might still be amusing and instructing thousands of readers by fresh volumes of popularised archæological research.

I need scarcely add that all I have said above applies to coffee as to tea, though not so seriously *in this country*. The active alkaloid is the same in both, but tea contains weight

for weight about three times as much as coffee. In this country we commonly use about 50 per cent. more coffee than tea to each given measure of water, and thus get about half as much alkaloid. On the continent they use about double our quantity (this is the true secret of "Coffee as in France"), and thus produce as potent an infusion as our tea.

I need scarcely add that the above remarks are exclusively applied to the *habitual* use of these stimulants. As medicines, used occasionally and judiciously, they are invaluable, provided always that they are not used as ordinary beverages. In Italy, Greece, and some parts of the East it is customary when anybody feels ill with indefinite symptoms to send to the druggist for a dose of tea. From what I have seen of its action on non-tea-drinkers it appears to be specially potent in arresting the premonitory symptoms of fever, the fever headache, &c.—*Knowledge.*

MONOMANIA.

We quote the following from *The Homœopathic World*:

"DEAR SIR,—Permit me to draw attention to the following interesting case of monomania, in which the organ of 'Conjugality'—according to phrenological nomenclature—was diseased. It was brought under my notice by a lady, sister to the one in question, who introduced the husband, a gentleman of good position, a banker in the northern districts.

"The lady in question had been an inmate of three of our best asylums (private), and no relief had been afforded, much less cure effected.

"The gentleman, in conversation, said he was ready to carry out my instructions, and did so with the following result: The mother is now in the midst of her family, and the wife the restored companion of her husband.

"The features of the case were these: An impression that the attention to and love for her husband was not such as her relationship demanded, nor her devotion to the interests of her family sufficiently deep and true, together with the idea that both disliked her company and conversation. There was no such thing as removing this by any of the means tried.

"I suggested that to attack the idea at its fount a purchase should be made of an entire suit of apparel, the exact colour, quality, and pattern known to be her favourite; that the

packages should be laid in a drawer she most frequented, the drawer not being shut or quite closed, when, possessing large 'Order,' as she entered her attention would immediately be drawn to such lack of tidiness; that on one of the parcels a note should be affixed, addressed, 'From Henry to Louise, with intense affection.'

"My suggestion was carried out to the letter, and with the result I have before named.

"As medicines I advised *China Officinalis* and *Ignatia Amara*, the first twice daily, the second at noon, with the best effects.

"Having made mental diseases in some small degree a study, I am led, especially by this last success, to thoroughly endorse the sentiments of Sir William Ellis, M.D.: 'I candidly confess that till I became acquainted with phrenology I had no solid ground upon which I could base any treatment for the cure of insanity.'

"Hoping that the above may be of some service to the profession generally, and apologising for the length of my letter,

"I am, dear Sir, faithfully yours,
"Cinderford, Newnham." "RICHARDS GRAY, B.Sc.

KATHIE'S WEDDING DOWRY.

"Only one silk, and that not new! Dear me, dear me, it is dreadful!" and Mrs. Grayson caught up the pretty bodice of the garment in question, and gave it a spiteful little shake. Kathie, hemming ruffles by the window, laughed.

"What can't be cured must be endured; there's no help for it, auntie," she said.

"Yes, there was help for it," cried the lady, tossing the bodice from her, "if you had taken my advice; but you must go and act like a simpleton! The idea of a girl of your age giving away her hard earnings, and then getting married without a decent change of clothing! I declare it is too absurd. And you are making such a good match, too! Charles Montague comes of one of the very best families in the country, and he will be rich one of these days."

"At which time, let us hope, my scanty wardrobe will be replenished," said Kathie, merrily.

Her aunt frowned contemptuously.

"But what are you to do now?" she went on. "What do you think Mrs. Montague, of Oaklands, will think of you, when she sees your outfit?"

"Not one whit less than she thinks of me to-day," answered Kathie, stoutly.

Mrs. Grayson laughed in scorn.

"You poor little simpleton ! Wait until you know the world as I know it, and you'll change your tune. I tell you, Kathie, appearance is everything. Your bridegroom himself will feel ashamed of you when he sees you in the midst of his stately sisters, in the grand rooms of Oaklands."

Kathie winced, but she answered bravely :

"I don't believe Charlie will ever feel ashamed of me."

"Wait until he sees you in your shabby garments."

"Shabby garments," said Kathie, opening her bright brown eyes. "My garments are not shabby, auntie. I am quite sure I never looked shabby in my whole life."

Mrs. Grayson glanced at the trim, graceful little figure. The close-fitting blue merino was faultless ; the linen cuffs and collars were as spotless as snow. Kathie was right ; she never looked shabby. Her garments seemed to be part and parcel of herself, like the glossy feathers and black tuft of a canary. Yet these same garments were usually made of all sorts of odds and ends, for Kathie was poor, and obliged to be rightly economical. But she was possessed of that tact, or talent, or whatever it may be called, which is more to a woman than beauty or fortune ; which enables her, by the mere skill of her willing fingers and artist soul, to make life, her home, her own person, "a thing of beauty and a joy for ever."

Mrs. Grayson, Kathie's well-to-do aunt, with daughters of her own, who trailed their silks in the dust and tumbled their laces and plumes, and looked dowdy all the while, regarded the trim little figure by the window with a half admiring, half contemptuous smile.

"You're rather a pretty girl, Kathie, and you understand the art of getting yourself up in good style. What you've got will do well enough, but there's so little of it. Your bridal outfit is shameful, upon my word. What will you do for carriage dresses, and dinner dresses, and evening dresses, when you are Charles Montague's wife ? Why, when I was a bride, I had everything ; a round dozen of silks of every hue, poplins, merinos, tissues, and half a dozen sorts of wraps. I didn't go to James Grayson bare of clothes, I tell you."

Kathie said nothing. She bent over her ruffles, her bright eyes dim with tears.

"Such a simpleton as you've been," her aunt continued, "after toiling and teaching for your money, to turn round and give it away ! I declare it puts me out of temper to think of it."

"What else could I do ?" the girl burst out passionately. Could I see poor George's cottage sold over his head, and he and his wife and children turned out into the street ?"

"Assuredly," answered the lady, coolly. "He could have rented a house easy enough. In your place, I should have kept my money in my pocket ; but you wouldn't listen to my advice. You are sorry for it now, no doubt."

"I am not sorry. I would do the same thing again to-morrow. I'm glad I had the money to pay poor George's debt, and I don't care if I do look shabby."

"Very well, I shall try not to care, either. I shan't help you; I told you that from the beginning; I can't afford it, and even if I could I should not feel it my duty. You would be headstrong and senseless, you must bear the consequences. I'll give you some lace for your neck and sleeves, and you may wear the garnet set of Josephine's."

"I don't want the lace, I've some that belonged to mamma; and I wouldn't wear Josephine's garnets for anything."

"Oh! very well; don't snap my head off, I beg; you needn't wear them. Much thanks one gets for trying to assist you. You won't wear any hat, either, I suppose; how about that?"

"I have plenty of trimmings; I shall trim that light felt I wore last winter."

"And your jacket? Where's that to come from, pray?"

Kathie's tears were gone, her brown eyes flashed like stars.

"I intend to make myself a jacket of grandfather's old coat," she replied.

Her aunt threw back her head and laughed heartily.

"Grandfather's old coat! oh, that is too good! What would Mrs. Montague, of Oaklands, say, to that? Kathie, child, what a goose you are!"

Kathie threw aside her ruffles, and, going to the clothes-press, brought out the old coat.

"The material is very fine," she said, "and this rich, old-fashioned fur will cut into nice strips for trimming; I can make a handsome jacket of it; and I think," she added, softly, "grandpapa would like me to have it, if he knew."

"Grandpapa, indeed," echoed Mrs. Grayson. "I should think you'd have but little respect for his memory after the manner he treated you, never leaving you a penny after you nursed him and slaved for him as you did."

"I think he intended to leave me something," said Kathie. "I know he did, but he died so suddenly, there was some mistake."

"Oh, nonsense! I wouldn't give a fig for good intentions! He had lots of money—everybody knows that; it has all gone to that scapegrace, Dugald, and you haven't a shilling now for your wedding dowry."

"Charlie won't mind that," said Kathie, her cheeks blooming like a rose.

"Won't he? Don't tell me, child! Every one thought you would be old Tom Rowland's heiress when you first met him. Ten to one he'd never have given you a second thought but for that. Now that he's disappointed he's too much of a man to back out, of course, but he feels it all the same. Don't tell me."

Kathie uttered no word in answer. She took the old coat, and crossing to the window, sat down to rip it apart. Her wedding day was drawing near, there was no time to lose. Mrs. Grayson settled herself on the lounge for her afternoon nap; the big Maltese cat purred on the rug, the canary chirped lazily in his cage, and without,

above the waving line of the wooded ridge, the December sunset glowed.

Kathie began to rip the loosely-stitched seams, her pretty, fresh face looking sad and downcast. Aunt Grayson's world-wise talk had put her out of heart.

All her life she had been such a brave, sweet little soul. Left an orphan early, she had lived with her grandfather, and made his last days bright.

"You're a dear child, Kathie; by-and-by, when you think of being a bride, I'll give you a wedding dowry."

He had said so a dozen times, yet, after his sudden death one midwinter night, there was no mention of Kathie found in the will, and so everything went to Dugald, the son of a second marriage.

Kathie did not complain, but it cut her to the heart to think that grandpa had forgotten her. She tried not to believe it; there was some mistake.

And when Dugald sold out the old homestead and went off to America, she gathered up all the souvenirs and took care of them. The old fur-trimmed overcoat was one.

Then, lodging at her aunt's, she taught the village children, and saved up her earnings for her marriage day, for Charles Montague loved her, and had asked her to be his wife.

The wedding day was appointed, and Kathie was beginning with a fluttering heart to think about making her purchases, when her brother George fell ill; and worse, fell in trouble. He was rather a thriftless man and had been unfortunate; his little home was mortgaged, and unless the debt could be repaid the house would be sold over his head. Kathie heard, and did not hesitate an instant. Her hard earnings went to pay the debt.

She did not regret her generosity, sitting there in the glow of the waning sunset; she would have done the same thing again. She did not doubt her handsome high-born lover's loyal truth, yet her girl's heart ached, and tears dimmed her clear, bright eyes.

It was bad to be so cramped for a little money, and one's wedding day so near. Her wardrobe was limited. She needed a nice seal brown cashmere dreadfully, and a light silk or two for evening wear. Aunt Grayson told the truth; she would look shabby in the grand rooms at Oaklands, in the midst of Charlie's stately sisters.

The tears came faster, and presently the little pearl handled knife, with which she was ripping the seams, slipped suddenly, and cut a great gash right across the breast of the coat.

Kathie gave a shriek of dismay.

"There, now, I've spoiled the best of the cloth, I can't get my jacket out; what shall I do?"

Down went the bright young head, and with her face buried in grandpapa's old coat, Kathie cried as if her heart would break.

Mrs. Grayson snored on the lounge, the Maltese cat purred before the hearth, the canary twittered, and out above the wintry hills the sunset fires burned.

Her cry out, Kathie raised her head, dried her eyes, and went on with her ripping. Something rustled under her hands.

"Why, what's this? Some of grandpa's papers!"

She tore the lining loose, and there, beneath the wadding, was a package done up in parchment, and tied with red tape.

Kathie drew it forth. One side was marked: "This package belongs to my granddaughter, Kathie."

"Why, what can it be?" cried Kathie, her fingers fluttering as she tugged at the tape.

At last the knot yielded, and she unfolded the package. Folded coupon bonds—a round dozen at least—and a thick layer of crisp bank notes. On the top a little note. She read it.

"My dear little granddaughter, here is your marriage dowry. Two thousand pounds. One day some fine fellow will claim you for his wife. You are a treasure in yourself, but take this from old grandpapa."

"Oh, grandpapa, you did not forget me!" sobbed Kathie.

A ring at the door startled her. She looked out and saw her lover. Gathering her treasures into the lap of her ruffled apron, she rushed out to meet him.

"Oh, Charlie, come in quick; I've some wonderful news to tell you!"

The young man followed her into the drawing-room, wondering what had happened.

"Oh! Charlie!" she cried, breathlessly, holding up her apron, her eyes shining, her cheeks aglow, "you see, I am rich! I've found my marriage dowry. A minute ago I was crying because I was so poor. I had to give George all my money, and I've only one silk, and I had to trim my old hat over, and auntie laughed at me so, and said you would feel ashamed of me. I was cutting up grandpapa's old overcoat to make a jacket, and I found this; only see, two thousand pounds! Oh, Charlie! I'm so glad for your sake."

The young man bent down and kissed the sweet tremulous mouth.

"My darling," he said, his voice thrilling with tenderness, "I am glad of all this because you are glad. For my own part I would rather have taken these darling little hands without a shilling in them. You need no dowry, Kathie, you are crowned with beauty, and purity, and goodness. In my eyes you are always fresh, and fair, and lovely, no matter what you wear. I love you for your own sweet self, my darling."

Kathie let the folded coupons and bank notes slip from her apron and fall to the floor in a rustling shower.

"Oh, Charlie!" she whispered, leaning her head against his shoulder, "I am so glad."

"Glad of what, Kathie—grandpapa's dowry?"

"No; glad you love me for myself."

He clasped her closely, and at their feet grandpapa's marriage dowry lay unheeded.

Book Notices.

Our Girls: A Special Physiology; being a Supplement to the Study of General Physiology. Illustrated by MRS. SHEPHERD. (New York: Fowler & Wells.)

This book treats of a subject of vital importance. Every girl who expects to blossom into true womanhood should read this work, which is written in a very simple and pleasant style. The two chapters on dress are exceedingly sensible, pointing out in a clear and decided way the desirability of consulting health before fashion. Health is of the first moment, hence should be first considered, but if a girl knows nothing about her organization and has never studied physiology, anatomy, and hygiene, how can it be excepted that she will do other than disfigure herself by extremes of fashion? It is a mistake to expect a perfect result without due preparation, hence educate your girls in these matters, and put into their hands good, well-written books, and you may have reason to expect that their own sense will be awakened to right and appropriate ideas of things that concern them more closely than they ever thought of before.

A Bachelor's Talk About Married Life and Things Adjacent. By WILLIAM AIKMAN, D.D. (New York: Fowler & Wells, 753, Broadway.)

This is a book calculated to meet the wants of those who are seeking for suggestions on family government; it also contains useful hints for young people who are just beginning to think for themselves, as our bachelor friend begins his talk by addressing himself to parents, and then passes on to children of all ages. The little rubs in family life are all spoken of, and ways are pointed out by which children may learn how to rightly estimate life; and at the same time pay the little courtesies to those around them that are so needful to lubricate the wheels of life. The book is full of useful ideas, and the interest is kept up to the close. On page 201 is a chapter which points out to a lad beginning to feel his importance, the injury of reading objectionable literature. And so, from chapter to chapter, you find how thoroughly the book has been thought out, as it goes to the very core of true happiness, and takes the reader into domestic life right on to the golden wedding.

The Fallacies in Progress and Poverty. By WILLIAM HANSON. (New York: Fowler & Wells.)

The author says in his preface: "There are those who maintain that economies have nothing to do with morals. From this opinion he dissents in toto. The industrial problem demands a moral solu-

tion, and this it must have ere a settlement can be gained." The author therefore invites a careful examination of the inductive and deductive demonstrations of his book, and "prays that a perusal will convince the intellect and quicken the heart of the reader to an abiding sense of his own moral obligations." To those who take an interest in this subject—and all should—we can recommend this work.

Facts and Gossip.

WE regret to have to announce the death of one of our oldest temperance reformers during the past month. Mr. Livesey initiated the teetotal movement. He lived to a ripe old age, being a worthy example of the principles he so thoroughly advocated.

A NEW edition of Mr. Fowler's "How to learn Phrenology" has just been published. Those wanting the work can have it by sending to the publisher. The price is 6d. A new edition of "A Manual of Phrenology" (by the Editor of the "Phrenological Magazine") has also been published. (Price in paper covers 1s.)

IT may be interesting to those who are suffering from rheumatism and gout to know that there is a cure for those distressing complaints. The owner of the recipe is anxious not only to do good by means of his secret, but also to make a little money by it. He is therefore willing to supply the medicine free to any one who, if cured, will pay him £5; or he will send a bottle by parcel-post, pre-paid, to any address in the United Kingdom for 3s. Address, "Dane," care of the Editor, "Phrenological Magazine."

MR. BRUDENELL CARTER'S letter in *The Times* on the "influence of civilization on eyesight" is peculiarly opportune. Observations, he tells us, have in Germany, Russia, and America been conducted upon a large scale to show the proportion of disease prevailing in the different grades of schools. The result of Dr. Cohn's studies upon over ten thousand children went to prove that "the faulty shape of the eye-balls, especially in the direction of myopia, increased steadily, both in numerical prevalence and in degree, as school-life was prolonged; being least frequent and least pronounced in the elementary schools, more frequent and more pronounced in the intermediate, most frequent and most pronounced in the finishing schools." As these conclusions have been fully confirmed by scientific inquirers in other parts of the world, Mr. Brudenell Carter naturally wished to make some examination into the health of the eyes of English school-children. He began by getting a friend, Mr. Adams Frost, to inspect a Board-school in the south of London. Rather more than one-

fourth of the scholars had subnormal vision. This was a serious state of things, and Mr. Brudenell Carter applied to the London School Board to give him necessary facilities to conduct his researches on a large scale. The remarkable reply of the committee to which the application was referred was that they did not "see their way clear (*sic*) to sanction the proposed inquiry." The baffled oculist maliciously suggests that the "committee were really influenced by fear of the results which might be disclosed." Possibly.

THE average breakfast is slighted. In the morning hurry, the importance of its being good and wholesome is overlooked. Surely, when one comes to think of it, the first meal of the day ought to be something better than the hashed-up remains of yesterday's dinner. It is not necessary that a breakfast should be elaborate; but it should be particularly well cooked, appetizing, and nourishing. If one is to fight business battles or moral battles successfully, he must go forth in the morning strengthened "in the inner man." Well-fed men ordinarily know little of the craving for stimulants that gnaws at the stomach of the poorly-nourished labourer. Wives and mothers who would save their husbands and sons from the drink-fiend cannot too early learn this lesson. Fresh fruit is always a most acceptable and healthful addition to any breakfast, when the family exchequer will possibly allow it. A little indulgence in this luxury in the spring would often save many a doctor's bill. Variety is also another point which should be aimed at. It is particularly antagonistic to early rising to know that one is getting up to the same everlasting breakfast of bread and butter, an egg, and weak coffee.

JOHN EVELYN, the illustrious author of "Sylva," a discourse on "Sallets" (1699), and other works, held them to be an essential part of the daily food of man, and that no dinner is complete without one. They add a zest to more solid viands; they are anti-scorbutic, and purify the blood; and if properly dressed they assist digestion. The plants used as materials for salads are so numerous and varied that it would be tedious as well as useless to enumerate them. Dr. T. K. Chambers says:—"Vegetables intended to be used for salad should all be fresh and crisp, and sweet and clean. Their colours should be positive and even, the reds very red, the whites very white, and the greens pure as those in an autumn sunset sky except in the full-grown leaves such as water-cress. The salad ought to be dressed by one of the daughters of the house after she herself has dressed for dinner, singing, if not with voice, with her clean cool fingers, sharp silver knife, and wooden spoon—

Weaving spiders, come not here;
Hence you long-legged spinners, hence;
Beetles black, approach not near;
Worm nor snail, do no offence."

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

G. S. B.—This child has a very active mind ; is one of the busy kind from morning till night ; she always finds something to entertain herself with. She is remarkable for her capacity to pick up information ; is a natural born scholar, and will have to be restrained from study rather than encouraged. She will be a great reader as well as talker. She is always in earnest about everything ; is quick to take a hint. She has strong sentimental feeling ; is kind and tender-hearted, full of sympathy. She is decidedly conscientious, and has distinct ideas of right and wrong. She will early show a spiritual tendency of mind, and is full of hope and expectation. She can make a good scholar, teacher, or writer ; but special care should be taken of her constitution.

A. S. was remarkable for her powers of observation ; her strong desire to see and know ; for her ability to acquire general information. She seldom forgets anything she ever saw, heard, or did ; was naturally scientific and fond of experiments. She had large Order ; took extra care of things, and put things in their places ; she remembered persons and the forms of things quite accurately, and worked correctly by the eye. She had an intuitive rather than a philosophical turn of mind ; was deeply interested in others, and had strong sympathies for the poor, the old, the infant, and the unfortunate. She delighted to hear conversation on religious and moral subjects. She was steady and uniform in her general character ; was rather retiring and modest for the want of Self-esteem, and because of large Veneration. She was industrious and economical ; very anxious about her family ; decidedly domestic in her disposition, and centred her affections in home. She had all the elements of a good wife and mother.

I. F. (Southport).—This lady has a favourable balance of organization ; has naturally a strong constitution ; is well supplied with vital stock ; has also a sound head and a strong mind ; and is capable of planning and looking ahead. She is naturally industrious and economical ; has more patience than many, and could take care of the sick and infirm longer without getting out of patience than many. She is characterized for having a mirthful state of mind ; is youthful in her disposition, and appears and acts younger than she really is. She has versatility of talent ; is quite steady, firm, and persevering, and appreciates praise and approbation. She is strong in her attachments, and will endure and go through many labours and hardships for those she loves. She comes from a strong, long-lived, talented

family, and will probably live to a good old age herself. She is magnetic in her influences, and capable of exerting more than ordinary influence. If left to herself she would succeed as a nurse or as a manager of some institution.

J. D. W. (Swansea).—You are earnest, sincere, and alive to what is going on. You have a strong desire for an education, and wish to do something for the good of others. You cannot confine yourself to a fashionable, artificial life. Your aspirations are of an intellectual and moral nature, and you will not be satisfied to remain stationary and do nothing. Your phrenological developments are favourable to thought, judgment, originality, and power to plan and organize. You have more of a philosophical than a scientific or perceptive intellect; are sometimes absent-minded and liable to allow your thoughts to centre on things too far away. You are full of sympathy and interest in others. You are quite domestic, enjoying the society of the few while you pray for the many. You are comparatively mild in your disposition, confiding in your feelings towards others, and are slow to harbour hatred or revenge. You can succeed in teaching or in some place of trust, where you can oversee and manage; or to be in some institution like an orphanage, a hospital, or be employed in some reformatory. You would make a faithful wife and loving mother.

H. (Herts).—The photograph indicates a predominance of the motive, muscular, bony temperament; has naturally a strong constitution; is more strong, firm, and steady than active and forcible; he generally takes things easy, works and fights when he must, and enjoys himself when he can. He does not worry and chafe about the future; does not live a self-condemned life; acts upon the principle that sufficient to the day is the evil thereof; is naturally frank and confiding, but contact with the world may have taught him to keep his own affairs to himself. He has the qualities to make him kind and disposed to sympathize with others, also to be respectful to superiors; can be very firm and tenacious, if not stubborn, when opposed, and self-possessed in times of danger; has a sagacious, practical kind of intellect, and is adapted to some kind of business where he can have the charge and superintend. He does not change much in his character; likes old-fashioned ways best; fond of the family, the farm, and stock.

N. I. S. (Downham).—A man of a strong, well-knit, physical constitution, capable of doing a great deal of hard work and enduring much hardship. Barring accidents, will live to a good old age, and see his children grow up to manhood and womanhood around him. Is from a long-lived ancestry; would have made a good soldier, but a better naval officer. He possesses good will, great determination, and great "staying" power; but is withal kind-hearted and genial in his disposition; is naturally of a religious turn, and disposed to accommodate himself to the prevailing opinions on religious and moral subjects; is fitted for some career requiring the above-men-

tioned qualifications, as well as an observing, critical, practical turn of mind, and good powers of calculation.

F. L. (Belfast).—You are rather unevenly developed in regard to the formation of your brain. Your will is not great. You will be rather too easily influenced by praise or blame; should try to correct this. Are very sensitive; very cautious; rather secretive, kind-hearted, and sympathetic, and disposed to oblige. You possess an uncommon amount of affection, and would make a good wife; but you need to look out for a husband who has a large head, and is fairly well educated; and when you find him you should put yourself under his intellectual guidance, so as to get all the education you can. You will never be much of a scholar; but you can learn to be practical and common sense in your ways of looking at things, and a good housekeeper. Avoid depression of spirits, and a consequent irritability or ill-temper. Be cheerful always, and hilarious sometimes.

Y. B. W. (Carnforth).—You possess some uncommonly good qualities: you have a large head and some well compacted brains within it. Your developments appear to be somewhat uneven; but that is advantageous rather than the contrary; it makes you vigorous in directions, and not too smooth. You appear to be possessed of good will-power, and can carry out your purposes and plans. You are not afraid of hard work, but rather like a tough job, if not merely mechanical. If you had had a chance for education you would have made your mark in almost any direction. You have uncommon constructive powers, which give you invention, skill in contrivance, and ingenuity in various ways. You also possess some wit and imagination, and could write. But your best gifts are in the direction of thought, originality, understanding, and in science. You should have studied science, or else gone into mechanics; in either you could have excelled. You are genial and lively, but have at times a little too much tongue. Social—very.

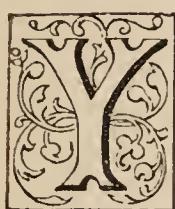
G. P. (Chester).—Not strong; consumptive tendency; should not study too closely; needs to be employed outdoors, and to have plenty of physical exercise, though of not too vigorous a nature. He will not be characterized for very great revolution or individuality of character. His vital powers are weak, and if great care be not taken to strengthen him when young, he will be liable to be ailing. His intellectual powers favour thought, imagination, and criticism; but he needs more quiet observation, and more memory. He has good arithmetical powers, and would make a clever bookkeeper, accountant, &c. He has fair language, and could excel in some branches of scholarship, and be a teacher.

LIFE is not a dreary waste; on the contrary, it is full of joy and beauty; and to the strong, reliant soul, who has faith and hope, it is full of goodness; but beauty must be in the mind, and goodness in the heart, or neither will be seen to be in the world.—*J. Johnson.*

THE Phrenological Magazine.

NOVEMBER, 1884.

MR. JOHN LOBB.



YOU possess a very high degree of the nervous temperament along with enough of the lymphatic to give ease of motion and of thought ; can go through with more mental exercise with less friction than the majority of persons, but need more vitality in order to sustain you in a long strain of mental action. You are not adapted to heavy physical exercise, but can do almost any amount of light, active physical labour. Your brain is in harmony with the size of your body, and if you were to give each its due share of attention you would be equal to a day's work every day ; but if you devote yourself exclusively either to mental or physical labour it will be done at the expense of one or the other. Your head is well proportioned. There are not many extremes in your character arising from an unequal distribution of mental capacity. All of your extremes are the result of the excitement of the occasion and the too great activity of certain faculties at the time while they are excited. You are very true to your state of mind : whatever feelings you have are very apparent, for you show out your real character and the true state of your mind at the time. It would be difficult for you to play the hypocrite ; and sometimes you have scarcely enough self-government. You are characterised among your friends for the following qualities of mind :—First, you readily sympathise with others ; you do not live alone, and cannot enjoy by yourself. You prefer to come in contact with society, and have to do with those things that will make others happy. Whether you give your money or not, you give your sympathies, your interest, and your labour ; in fact, you have somewhat of a missionary spirit, and would rather work for nothing, if by doing so you could do good, than not work at all.

The second feature of your mind is determination, perseverance, desire to overcome obstacles and relieve yourself entirely

from all impediments. The third quality is independence and desire to be your own master. Scarcely anything would afford you more pleasure than to be entirely free and have everthing go your own way. It is galling to you to be obliged to submit and to have a dictator. The fourth feature of your character comes from thought, originality, power of suggesting, comprehending and planning. You are rather quick to take a hint, and to see the bearings of a subject. You are somewhat inventive, and are not content to do things in the old way, but are progressive and reformatory.

The next feature of your character is spirit, resolution, efficiency, energy and desire to do what you do promptly. You cannot keep still where there is opposition ; are liable to fret and chafe if things do not go along smoothly ; are too liable to feel that you have an opponent, and make too much of any opposition that presents itself. The next feature is hope, anticipation, a disposition to venture, to try new experiments, to start in new enterprises, and to work with reference to the future. You are always living in the future, and seldom refer back to the past excepting when you have failed to accomplish your ends. You are never gloomy except when thoroughly exhausted, and then you quickly regain your accustomed elasticity. You have a prominent feeling of veneration, giving deference, respect, and regard for superiors, and sacred subjects.

You have a distinct interest in children. You may not have time to pet or nurse your children much ; still you are willing to work for them, and are quite anxious about their welfare, health, and education. You are not strongly attached to many persons, but are drawn to your co-labourers in a course in which you are interested. Consequently, your attachments are manifested chiefly to wife, children, and home associations. You are much attached to one place ; and desire to have a house and land of your own. You are liable to dwell too long on subjects that are unfinished, and cannot very well cease thinking about them till completed. You have not much cruelty, hardness, severity or revengefulness of disposition. You do not think so much about making money for yourself as you do to succeed in your attempts. You buy your property for what you can do with it and for the position it gives you. You are liberal in your ideas, and frequently give your services, time, strength, and money too freely ; are very frank, candid, open-hearted, and disposed to speak out, and have no sympathy with underhand dealings. You are cautious enough to look ahead and avoid unnecessary difficulties ; but you are more liable to see the danger you have

gone through than to foresee and avoid it. Your religious character is manifested more strongly through Benevolence, Hope, and Veneration than the other moral qualities. Your faith is not so much the result of organization as of training, and you are governed more by evidence than by belief. Conscientiousness is fully developed, but it is not so large as Hope or Benevolence. You readily adapt yourself to the changes that



take place in society and in business, and are handy in almost any sphere in which you may be placed. You easily learn to do one thing just as well as another, and have more than ordinary versatility. Your constructive talent goes along with your imagination and your planning talent, and although you may not be an expert in the use of tools, yet you easily learn to do different kinds of work; but are more particu-

larly successful in scheming, planning and devising ways and means.

You have a cheerful, playful, pliable disposition, and when not over-worked, are as buoyant in your spirits as a boy. Mirthfulness is fully developed, and you enjoy mirth, wit and subjects of a pleasant nature, yet you take no pride in being witty.

Your perceptive faculties are fully developed and wide awake. When you go on purpose to see you remember what you see, but usually you are more occupied with your thoughts. Your memory is not very good as applied to isolated facts, statistics, and the rudiments of education, but you remember plans and the order of things.

Mr. John Lobb is the editor of the *Christian Age*, one of the most widely read and influential of the religious weeklies. He is also a member of the School Board for London. In respect to this work, of which he has shown much business tact and independence of view, though second to none in his zeal for the extension of education, he is a rigid economist where expenditure is merely for show, or "fringe," as he once put it. He has been merciless in his exposure of what he considers the prevailing fault of over-pressure. At a recent meeting of the Board Mr. Lobb did not content himself with asserting the existence of over-pressure, but cited *twenty-seven* subjects as being crammed into the poor children in Board schools. He mentioned first :—

Reading, Writing, Arithmetic, Grammar, History, Literature (including three books), Geography, Drawing, Needle-work in all its branches, Domestic Economy, Kindergarten, Military Drill, Music, and Singing.

These fourteen subjects, he said, were enough, and were all that was intended by the Education Act : but, in addition, the Board scholars had thirteen more :—

Algebra, Euclid, Mensuration, Theoretical Mechanics, Chemistry, Physics, Botany, Animal Physiology, the Principles of Agriculture, Latin, French, Swedish Drill, Calisthenics.

In some districts, he said, from fifty to eighty per cent. of the children in London Board schools belonged to families who reside in one room. Evidence of the teachers was forthcoming to prove that numbers of these poor children had no mid-day meal, and yet their poor little brains were racked with Latin and tormented with Euclid.

In this direction, as well as in others, equally beneficent, Mr. Lobb is doing a good work ; and all who know him wish him long life and health to prosecute his various useful activities.

L. N. F.

SENSATION IN PLANTS.

IN all the realms of nature every object contained therein has a certain amount of sensibility; or, in other words, it perceives and is acted upon by its surroundings: even the very stones which appear at first sight to be unimpressionable, are acted upon by heat, cold, moisture, and other atmospheric influences.

If we carefully observe the kind of life which goes on in the vegetable world, we shall perceive that each individual plant possesses a great amount of sensibility, which puts it in relation with its surroundings, and leads it to act according to the impressions these produce; at one time winding its course so as to avoid a stone, at another taking advantage of any support which comes in its way. Some plants even extend their tendrils, which float about in the wind till they feel some objects upon which each one seizes, and then it winds and curls around the stick or stem which it has laid hold of, so as to maintain itself in its position. In the case of creeping plants these peculiarities are more particularly noticeable; but even among those which are not of this nature, there are many that avail themselves of any advantage which presents itself.

We had an opportunity of noticing this fact in our own garden. A species of pillar cactus was growing up at a short distance from a wall, about six inches from it, but as the plant grew, it gradually inclined towards it, and when almost close, it put forth some feelers or soft roots from the starry, spiky rays, which are to be seen at intervals along the plant; by these it attached itself firmly to the wall, and as it grew, continued to do the same at those points; so that in the parts which were away from the wall the plant supported itself, but availed itself of help as soon as the opportunity offered. We see by this how sensation led to action, and to a new adaptation. Now all this could not take place if the plant did not *feel*, in a certain sense. Though trees and plants have not the power of transferring themselves from one place to another, yet their parts move rapidly in the way of growth, the roots making their way among the inequalities of the ground in search of water, or of a soil more suitable to their existence, and spreading about so as to strengthen the base of the tree, and make it more able to bear the weight above it, as well as the effects of winds and storms upon it. The branches, on the other hand, grow upwards, and spread out their leaves to the sun, or turn them edgewise, as in the

case of the eucalyptus, cypress, and other such trees, to avoid the too-drying effects of that luminary, thus acting according to the necessities of each plant or tree.

Flowers also show a very marked sensibility; they vary their position and times of opening and shutting,—so much so, that it has been said: a sundial might be formed by taking advantage of this peculiarity of different flowers. But not the sun alone has an influence over them; insects also play a considerable part in their movements; and in the case of the Venus's fly-trap, *dionea muscipula*, when touched by an insect, it closes upon it, and is said even to digest it. The sensitive plant, *mimosa pudica*, as its name shows, has a peculiar susceptibility, and shrinks at the slightest touch. By these examples we perceive that vegetable life has a certain sensibility of its own, which fits it for the various situations in which it may be placed, and enables it also in a great measure to adapt itself to those situations. It has, in fact, a something answering to our nerves, by which it feels, and by which it acts in response. If by chance a plant is placed in a situation totally unfitted for it, it dies, as it has not the power of locomotion to enable it to change its place.

Many persons object to the statement that a plant *feels*, because they consider that that would imply a similar kind of sensation to that of men, and supposes consciousness; but to remove this impression, and to show that there is feeling of another kind, we will endeavour to demonstrate that human beings themselves have a similar sort of feeling to that of plants. Let us turn our attention to the interior organs of our bodies,—the heart, the lungs, the stomach, the liver, etc.,—and we shall see that they carry on their functions quite irrespective of any cognizance on our part. We know as a fact that the stomach receives its food, that it acts upon it, and changes its character; that the liver carries on the work, and prepares it to be absorbed from the bowels into the veins; after which it is conveyed by them to the heart, then pumped into the lungs, where it becomes blood fitted to produce flesh. This process goes on continually in our bodies, yet we ourselves neither feel nor know anything about it; but though we are quite unconscious ourselves of what is doing within us, each separate organ feels, and acts, and does its work effectually, for it has nerves which receive impressions and which respond to them; but the sensations and actions are localized; each one does its own work independent of the other, according to the particular stimulant which is presented to it.

By this example in our own persons we may understand

how plants may receive impressions, may feel and act responsively, without any *consciousness* that they do so. None the less, however, is this a state of real feeling and action ; for the plant also shows that it suffers, when it is injured or diseased, either by any outward or inward influence. A broiling sun, want of water, a very boisterous or blighting wind, will have a baneful effect on the plant ; a parasitic insect or fungus will suck up, as it were, its life's blood, and destroy its vitality. In all these cases the plant suffers because it *feels* ; but yet it has not the means of ridding itself of the evil, for that would require a power which it does not possess : it is only by the aid of man, or of some other action from without, that the disease can be mitigated or eradicated.

In the foregoing statements it will be perceived that we have spoken of feeling and responsive action as being limited to the particular part in question, and of objects which, though they have life, have no powers of locomotion, nor any *consciousness* in the ordinary sense of the word. To obtain these advantages, a higher organization is required, in which the several parts must all communicate with some common centre ; in the lower individuals of animated nature this may be of a very simple kind, a mere ganglion, to which nerves tend, and from which they proceed, just to enable them to procure their food, they being no longer attached to the soil, as is the case in the vegetable kingdom. The following extract will show in how low a state such beings can exist :

"There exist in the waters of the sea, and in fresh water as well, a series of microscopic jelly-like specks, many of which are not longer than one-hundredth of an inch ; these are masses of protoplasm or sarcode. We know that they are alive, for they exhibit independent movement, and each living speck takes matter from the outer world to feed itself. This shows that the body is sensitive to outward impressions. In the absence of a mouth, food is ingested by any part of the body's surface ; without this sensitiveness to outward impressions the animal could not exist." *

Higher in the scale of existence other organs are super-added ; the senses and powers of locomotion become gradually developed, for a plant has no other sense than that of feeling —it can neither see, hear, taste, nor smell. As one or more of these senses are evolved, corresponding powers of locomotion generally accompany them, at first of a very low kind, such as the earth-worm, for example, which by means of its rings and its elastic skin can contract and extend itself, and

* Science for all.—Part LIV.

so progress ; a little higher than this is the caterpillar, with a commencement of legs attached to these rings. The higher the degree of development, the greater is the necessity for a nervous centre, to which all the parts of the body refer, so as to receive all the impressions, and to determine all the voluntary motions : by these joint acts *consciousness* is naturally evolved, for we must know first what is wanted, before we can act in conformity.

This superior stage is reached when a cranium is added in which are located the organs of the various senses, and in the cavity of which is placed a nervous matter called the brain, to which everything is referred, and which thus takes cognizance of everything connected with the whole body, and with its surroundings, through the medium of the senses.

We have already spoken of the separate and unconscious action of all our internal organs, but we will now remark that though they exist so independently yet they are connected with the brain by the grand sympathetic nerve, which is thus made to know when these functions are working well, or when anything is going wrong, caused either by obstruction or lesion ; so that we may be able by our superior knowledge and powers of combination to relieve or remove the evil.

The perfection of *conscious* sensation will, of course, be in proportion to the number of organs, and the size of the brain ; but in every animated being consciousness is perfect within the limits prescribed to each individual, whether it be an ant, or a bee, an animal, or any other living thing in which there is a nervous centre to receive impressions and to excite to action.

Thus we perceive that in the vegetable kingdom there is sensation alone, while in the animal kingdom there is *conscious* sensation.

METAPHYSICS AND PHRENOLOGY.

BY SAMUEL EADON, M.A., M.D., PH.D., &c.

PART II.

IN these great outlines, the metaphysical and phrenological schools are agreed. We shall now descend a little more into particulars, and show what faculties have been discovered, and considered Primitive and uncomplex, taking a sweep through the entire metaphysical domain :—a procedure, which will tend to show that although the two systems

of mind are closely allied, yet the palm of excellence will, doubtless, be awarded, by every thinking mind, to phrenology and its truth-felt statements.

COMPARATIVE VIEW OF THE PRIMITIVE FACULTIES, AS DISCOVERED BY THE PHRENOLOGISTS AND THE METAPHYSICIANS.

<i>Phrenological Nomenclature.</i>	<i>Metaphysical Nomenclature.</i>
1 Amativeness	Admitted by Stewart.
2 Philoprogenitiveness . .	Admitted by Reid and Stewart.
3 Adhesiveness	"The desire of Society" of Stewart ; "the appetite of Society" of Lord Kaimes ; Dr. Brown admits it.
4 Combativeness	"The Sudden Resentment" of Stewart ; "Instinct of Anger" of Brown ; "The Courage" of Lord Kaimes.
5 Destructiveness	Kaimes and Dr. Brown call it the "principle of malevolence."
6 Acquisitiveness	"A sense of Property" of Kaimes ; Dugald Stewart, and Brown don't consider it a primitive faculty.
7 Secretiveness	In Lord Bacon's Essay on "Cunning," it is accurately described.
8 Self-esteem	"The desire of power" of Reid and Stewart ; the "Pride" of Dr. Brown ; the "Sense of Dignity" of Lord Kaimes.
9 Love of Approbation	"The desire of Esteem" of Reid and Stewart ; "The desire of Glory" of Brown ; the "Appetite of Praise" of Kaimes.
10 Cautiousness	"Fear" of Lord Kaimes ; "Melancholy" of Dr. Brown.
11 Benevolence	Admitted by Brown, Stewart, and Reid.
12 Veneration	Neither Reid, Stewart, nor Brown advert to this, as an original faculty ! Lord Kaimes calls it "a Sense of Deity."
13 Hope	Admitted by Stewart. Outlines, 232.
14 Ideality	Dr. Brown's "Emotion of Beauty, Grandeur, and Sublimity" ; Lord Kaimes' "Senses of Grace and Taste."
15 Wonder	Admitted by Dr. Adam Smith, Brown, and Kaimes.
16 Conscientiousness . . .	Admitted by Drs. Cudworth, Hutcheson, Reid, and Brown ; also Kaimes and Stewart.
17 Inhabitiveness	"The Love of Country" of Dr. Brown.
18 Individuality }	"The desire of knowledge" of Stewart ; Eventuality } an "appetite of knowledge" of Kaimes.
19 Order	"Sense of Order" of Lord Kaimes.

<i>Phrenological Nomenclature.</i>	<i>Metaphysical Nomenclature.</i>
20 Language	The auxiliary faculty and principle of Stewart.
21 Comparison	Admitted by Malbranche and Lord Bacon.
22 Causality	" Sense of Cause " of Lord Kaimes, Causality and Comparison correspond to the " Relative suggestion of Dr. Brown, and to the " Understanding " of Locke.
23 Wit, or the Faculty which perceives differences	" The Sense of the Ludicrous " of the Metaphysicians; Kaimes' " A Sense of Ridicule."
24 Imitation	All writers on mind admit it.
25 Individuality	
26 Eventuality	
27 Form	
28 Size	
29 Weight	
30 Colour	
31 Locality	
32 Time	
33 Tune	
34 Language	

Dr. Brown's doctrine of " Simple Suggestion " includes the phrenological organs connected by the brace.

The phrenological faculties, either not noticed by the older metaphysicians, or not considered by them as *primitive, undecomposed principles* of our nature, are :

Concentrateness, Firmness, Form, Size, Weight, Colour, Locality, Time, and Tune.

In casting the eye over this analysis, we find no fewer than 20 of the phrenological organs mentioned by Lord Kaimes alone ; and in language so simple, that the most uneducated could tell the function of the faculties merely from the name. Lord Kaimes must have written from a *close observation of man*, and not at all by the dim light of any bolstered up theory of mind.

Some may be disposed to say : " What advantage is there in phrenology over the olden systems of mind ? " We reply, before the organs of the different faculties were discovered, we knew not which were simple, and original, or complex Powers. Stewart, and others, would treat a thought, or an emotion, as simple, when, it would turn out afterwards to be, complex. And this remark will apply to every writer of that school. We knew not, and had no means of knowing, which were *ultimate principles of human nature*. We are now differently situated. We have got a light from heaven, where-with to traverse the somewhat misty regions of metaphysics. We know which is truth, and which error. We can glean

and compare from every quarter, and say, what mental philosophy has done, and where its votaries got into the mazes of error. The advantage is, in phrenology's being able to say, for a certainty, which are *simple* feelings, thoughts, and conceptions, and which, *complex*; and thus, we have a power to stop all counter assertions, by pointing out the organ of any disputed faculty, supported by a long train of rigid induction. This is the vantage ground of phrenology; its basis being Nature, a fabric, built according to her laws, can never be demolished.

There is another thing somewhat remarkable in this analysis, viz., that so many metaphysicians should deny Veneration,—the feeling by which God can be worshipped and adored,—to be *an original* principle of our nature. Had this feeling not been primitive—original—worship in any form could not have taken place, nor Christianity have been propagated. The Bible itself would have been a book without a meaning. Where is the philosophy that leads not to a God? We could say where!—but it is not in phrenology; for the discovery of the organ of Veneration, the God-worshipping faculty, is the grand crowning work of the phrenological temple. Phrenology boldly and triumphantly points out to the Christian the organs of Benevolence, Conscientiousness, and Veneration, and says:—There, on thy head, looking straight to the very God who gave thee being, are the organs, the proper use of which tells thee to do justly, to love mercy, and to walk humbly with thy God, the practice of which constitutes true Religion.

Here, then, is another form of Revelation—a Personal, Cerebro-organologic-medium of religious receptivity—without the possession of which, the Natural, and Scriptural Revelations would be meaningless.

Men of first-rate ability have espoused the cause of phrenology; and yet, many of these scientists, probably were not aware of the close affinities existing not only in the major, but in many of the minor points, between the old "Philosophy of Mind" and "Cerebral Physiology." This kind of evidence could only be obtained by comparing the two systems, and pointing out their resemblances, differences, and ultimate errors. Parties seem hardly to be aware that it was the human spirit manifesting itself in each system alike. Many, in the one case, paying little, or no attention to the "MEDIUM," or "INSTRUMENT," whilst, in the other, the "Medium," by which spirit can alone manifest itself naturally in this life, claimed all the attention, observation, and care, which a most rigid induction could establish.

From two such different stand-points, there is no wonder that discrepancies, as well as resemblances, could be pointed out; and that certain faculties, considered by Reid, Stewart, and others, to be *simple* and *ultimate* elements in the mental constitution, turn out to be compounded in their nature; and that others, thought to be compound, should prove to be purely simple, and incapable of further analysis. It is the laying of the stones of the temple of mental science on cerebral organology that has given the philosophy of Gall the real ascendency over all other systems of mind, ancient or modern; and yet, the universities, by sheer prejudice, are barred against its advocacy (just as the doctrines of Sir Isaac Newton were for a time, till common sense asserted her rights *within* the walls of colleges as she had long done *without*); and there is not a moral philosophy chair, of any university, either in Europe, or in America, from which the cerebro-physiological doctrines of Gall, Spurzheim, and Combe are at present taught. This is disgraceful, and learnedly pettifogging, in the highest degree.

There are distinguished men, however, who have had the courage of their opinions, and have dared to assert them. Such men as Andral, Vimont, and Broussais, Elliotson, Conally, and Sir G. S. Mackenzie, will live long in "memory dear," when Roget, Prichard, and Jeffrey, Barclay, Magendie, and Sir W. Hamilton will have been forgotten.

Dr. Macnish, author of the "Philosophy of Sleep," and other works, thus writes:—"The phrenological system appears to me the only one capable of affording a rational and easy explanation of the phenomena of mind. It is impossible to account for dreaming, idiocy, spectral illusions, monomania and partial genius, in any other way. For these reasons, and for the much stronger one, that, having studied the science for several years, with a mind rather hostile than otherwise to its doctrines, and found that Nature invariably vindicated their truth, I could come to no other conclusion than that of adopting them as a matter of belief, and of employing them for the explanation of phenomena which they alone seemed calculated to elucidate satisfactorily."

. . . . "The Prejudices existing against it result from ignorance of its character. As people get acquainted with the science, and the formidable evidence by which it is supported, they will think differently. The simplicity and practical character of the phrenological philosophy have induced not a few to doubt the possibility of its bearing on physiological error." Similar opinions, in favour of the "Physiological Physics of Mind" could be quoted *ad libitum*, but there is no need "twice to slay the slain."

Without much examination, if any, we fear, there had got abroad a notion, especially in the minds of the religious part of the community, that there was something in phrenology hostile to evangelical religion. Many have prejudices on this head. They arise, either from ignorance of the evidences of the subject, or, from adopting the opinions of those who merely *suppose* phrenology *might* lead to principles not in accordance with Scripture. These are the men who think with other men's brains. They are not the *free-thinkers*, but the *freed-thinkers*; for they never think at all. We hold minds of this class to be in a dangerous condition. They are capable of no fixedness of principle, unless hemmed in by circumstances, completely favouring their adopted notions. Remove the circumstances which surround them, and, like the skiff on the ocean billow, they are tossed to and fro, with every wind of doctrine. Such minds are incapable of rational worship. Their adoration would be merely a blind feeling, without intellectual enlightenment. They have not the mental calibre to "try and prove all things, even the deep things of God." So powerless are such men, that, they would speak through another man's throat as well as think through his brains, were it possible. Their minds are, in fact, like a sheet of white paper, placed in the way of every passer by, and all who choose, write down their opinions, and these constitute the *dicta*—make up the mind, so to speak—of these very passive individuals. There are thousands of this class in the present day. Others there are, whose minds are of a different order—free, unshackled—capable of thought, ready to listen, and subject to conviction upon suitable evidence. These are the men of the present age—the pioneers of a better order of things. To this class, chiefly, we appeal in the comparison we have instituted between the mental philosophy of the old school and that of phrenology.

Such, then, is Phrenology, such its natural foundation, and such its alliance with, and superiority over, every other system of mental philosophy. It stands alone, as the only mental physics which really and fully harmonises with the Bible. It therefore claims the attention of every Christian. It proclaims to man the absolute supremacy of the moral emotions. It proves that intellect is inferior to goodness. It shows the tremendous influence of the feelings, and the dire necessity of using every means of keeping them within their legitimate bounds. In organ tone, it says, that, intellect is nothing without the moral faculties; that, the propensities acting along with intellect, are the scourge of human kind; but, that intellect, commingling its pure and lofty conceptions

with the moral sentiments, the godlike feelings of our nature, the propensities being in abeyance, will tend to bring about a much higher order of civilization.

In conclusion, is it not, we ask, just that kind of "philosophy of man" which lies at the foundation of human advancement, and which, if taught in all our universities, colleges, and schools, would tend much to improve the moral tone of society, by showing that every Organ, or Faculty, is divine in USE, and only, sinful in ABUSE, and enable men to pass through life, in a way, at once more refined, elegant, and happy.

MEASUREMENT OF THE HUMAN FACULTIES.

IN a recent lecture at Cambridge (the "Rede Lecture") on the above subject, Mr. Francis Galton, M.A., F.R.S., made some observations quite in accordance with phrenological views, although not advanced from a phrenological standpoint.

Mr. Galton said he should discuss the possibility of taking more complete measurements of mind than had hitherto been practised. The powers of man were finite, and if finite, they were measurable. It was somewhat anomalous that the art of measuring the intellectual faculties (by examination) should have become so highly developed, while that of dealing with other faculties should have been so little practised, or even considered. To essay the measurement of man in his entirety was to be justified by exactly the same arguments as those by which special examinations—such as those of classics or mathematics—were justified, viz., that each measurement tests the adequacy of the previous education. But it was impossible to be sure of a man's total efficiency unless he had been measured in character, and physically as well as in intellect. The art of measuring the various human faculties now occupied the attention of many inquirers in this and other countries. He should confine himself to two of its branches, one of which was but little explored, and dealt with temperament and character, and the other was thoroughly methodised, and dealt with the simple characteristics of height, weight, strength, and the like. He might have a difficulty in convincing them that his views of the measurement of character were not visionary, but he was confident of being able to show the importance of similar measurements.

First then, as regarded character. Could they discover

landmarks to serve as bases for a survey, or was it altogether too indefinite to admit of measurement? Was man, with his power of choice and freedom of will, so different from a conscious machine that any proposal to measure his mind was based upon a fallacy. He had made a series of careful inquiries, the general result of which led him to believe that the motives of the will were merely normal, and that the character which shaped their conduct was a definite something, and, therefore, that it was reasonable to attempt to measure it. In making this measurement, they must go upon the fundamental principles of intellectual examinations. Definite acts in respect to definite characters had alone to be measured. For this purpose he advocated the collection of data for comparative observations. To do this, they had to fix upon some particular class of persons of similar age, sex, and social condition, and to find out what common incidents in their lives were most apt to make them betray their character. The selection made, it must be well experimented upon before its adoption was recommended, for they must remember that observations of character were not yet developed, and could not be accomplished after many trials.

One of the most notable differences between man and man lay in their temperaments. But these would display themselves by carefully watching the subject, and he felt sure if two or three experimenters were to act judiciously together as secret accomplices they would soon collect abundant statistics of conduct, and learn to probe character more clearly. By the use of these statistics, and assuring themselves of the reality of emotions, they could form their calculations for generalizations. The points, then, that he had endeavoured to impress were, first, that character ought to be measured by acts, and then that the practice of deliberately and methodically testing the character of others, and of themselves, was not wholly fanciful but deserved experiment. Turning to the second portion of his subject, that dealing with physical measurement, he enlarged upon the importance of such tests as trying the senses of seeing and hearing, and noting the bodily development.

Mr. Galton went on to speak of the Anthropological Laboratory at the Health Exhibition, where all these tests could be applied, and said: The value of simple measurements like these was very great, because it showed if their development was properly going on, and if defects were found in early life, the opportunity might be afforded of remedying the hidden faults. The importance of the subject had been recognised in America, and the John Hopkins University had established a

department for its consideration, where the defects of physical culture were shown and particular branches of gymnastics recommended as required. It had succeeded very well indeed. The value of simple measurements being indisputable, the cost of making them, as he had shown, being so trivial, and the value of the registers in any permanent institution being so obvious, it seems strange they should be neglected by any school or university. He was audacious enough to suggest the establishment of at least a plain anthropologic laboratory at Cambridge.

He should consider it one of the best works of his life if the remarks he had had the privilege of addressing to that distinguished audience should lead to the introduction of a new acquirement in the University of the systematic but simple measurement of every undergraduate on his matriculation, and again before his taking his degree. The schools would gradually follow suit, and the growth and development of every member of the educated classes would be, for the future, systematically watched ; moreover, each person who had been at school and at a university would know where to collect data for his own life history whenever he desired to bring them together. It would be a step towards keeping a continuous record of growth of life and disease, and must give a number of accurate records from which much valuable information might hereafter be deciphered.

READING THE HAND.

"In the hands of all men, God placed some signs that they could thus know their works."—BOOK OF JOB.

"To predict to a man the events of his life by the sight of his hand is not more wonderful to him who has received the power of knowing it than to say to a soldier that he will fight, an advocate that he will speak, or a shoemaker that he will make a pair of boots."—BALZAC.

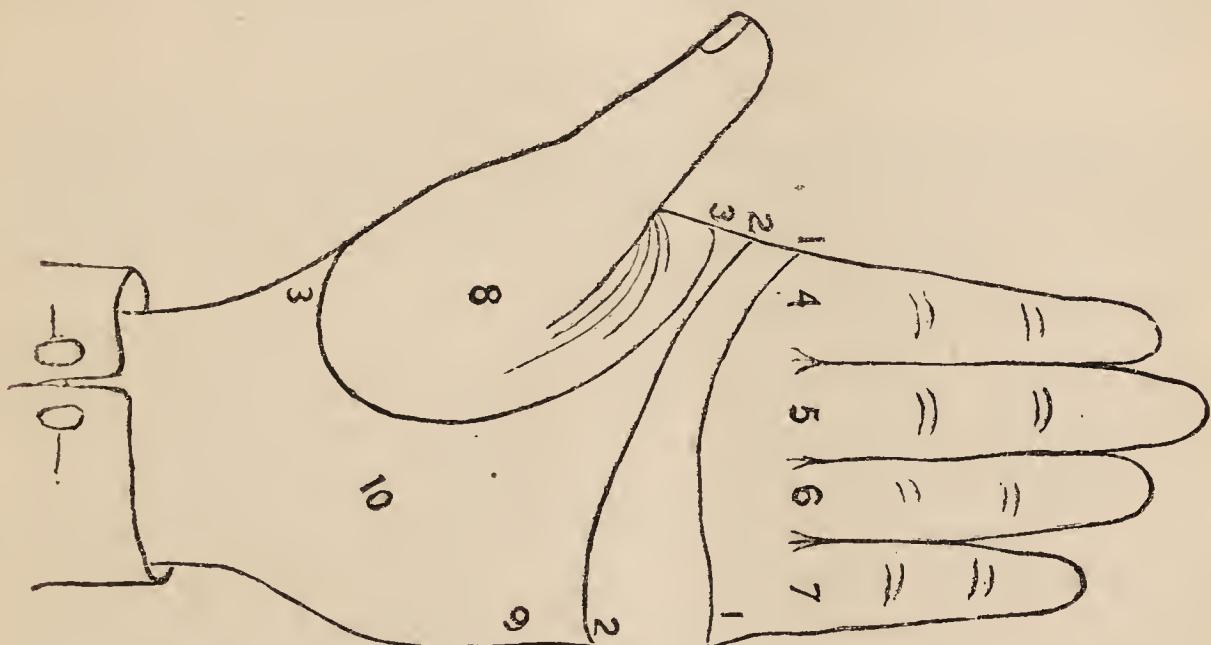
"By the pricking of my thumbs
Something wicked this way comes."—SHAKSPEARE.

THE science of palmistry is a very ancient one, and has always been closely allied with the art of astrology, the seven principal lines of the hand being controlled by seven planets, or wandering stars, as follows : The thumb is dedicated to Venus ; the index finger to Jupiter ; the middle finger to Saturn ; the ring finger to the sun, and the little finger to Mercury. That part of the hand which forms the palm, directly under the little finger is called the mount of Mars. The plain of Mars is half-way between the third finger, and the wrist, but near the line of life. The fleshy part of the

inside of the thumb is the mount of Venus. The mount of Jupiter is at the base of the index finger. The mount of Saturn at the base of the middle finger. The mount of the Sun at the base of the ring finger. The mount of Mercury is at the base of the little finger. The belt of Venus is a half circle or line which runs from the little to the index finger.

UNDER THE MOUNTS OF VENUS,

Which are little cushions of flesh, below the root of each finger.



THE LINES OF THE HAND.

"Oh, master, we are seven."

The lines of the hand, which are of controlling importance, are seven: The line of life, the line of the head, the line of the heart, the line of Saturn or fate, the line of the liver, the line of the sun or fortune, and the belt of Venus.

These are reduced in ordinary reading of the hand to the three principal lines: Line of life, line of the head, line of the heart. These lines are represented on the diagram, 1, 2, 3. The first line (1) is the line of the heart; the second line (2) is the line of the head; the third line (3) is the line of life. The mounts are, (4) mount of Jupiter, (5) mount of Saturn, (6) mount of the Sun, (7) mount of Mercury. The mount of Venus is signified by the figure 8, on the ball of the thumb. The mount of the Moon (10), mount of Mars (9). This chart is sufficiently illustrated for beginners, who are apt to be confused and discouraged when confronted at once by the whole science of chiromancy, as expressed in the hand that is fully illustrated. With this much knowledge, well understood, a very successful reading of the hand can be given for an evening's entertainment.

YOUR LUCK IN YOUR HAND.

"Man's past history and future destiny are written upon the palm of his hand."

Take the left hand and read it carefully first. The natural magnetism of the subject will convey to the amateur in chiromancy some hints as to character; the size of the hand, its flexibility, the softness or hardness of the skin, the responsive thrill of the palm will at once give a type of character. The principal lines must then be read, and the mounts of the hand examined carefully.

THE LINE OF LIFE

Is the first and most important one. It exists in all hands in a greater or lesser degree. When it surrounds the mount of the thumb, long, well-made, with a good colour, the life may be long and happy without any great trouble.

On the contrary, if the line is broad, pale, and of irregular width in its course and intersected by other lines, it is a sign of a weakly constitution, and a succession of illnesses.

In the case of frequent intersections the maladies to be feared will be from the influences of the portions of the hands from whence the cross-lines come. If the lines extend from the line of the heart, the illness will be caused by the chilling of heart affections, or some cause connected with the heart. If the cross-lines extend from the line of the head, the disease or malady will be traceable to the brain, or from injury to the head by a fall or blows. Lines extending from the mount of Venus tell, as may be expected, of sorrows arising from misplaced affection, or unhappy passion. But if such lines extend from the centre of the hand, or the plain of Mars, the trials will come, or have already come, from the struggle with life, commercial losses, or worries of a material nature.

If the line of life be duplicate, it means a luxurious existence; and if it give the appearance of a chain, or a linked or broken connection, a sad and precarious existence may be anticipated, or pronounced upon. When it is seen with roots or branches, extending to the mount of Jupiter, it indicates an ambitious nature. If the line of life is short the life itself will be brief. A broken line indicates a serious illness; broken in both hands means *death*. If the lower portion of the broken lines tends towards the mount of the thumb death is inevitable, but if it turns in the other direction there is hope.

THE ELEMENTARY HAND.

These are the merest outlines of the possibilities included

in the line of life. Every attitude of the human heart, all its pride, passion, avarice, evil, or its gentleness, charity, good-



ness and spirituality may be "read" by the skilled interpreter, who must be expert in deciphering the "sister" lines and all duplicate or parallel circles.

THE LINE OF THE HEAD.

The line of the head runs next to the line of life, but they do not always commence together. It traverses the plain of Mars and ends upon the mount of Mars, with a more or less sloping course towards the mount of the Moon.

The clearness, colour, length and depth of the line of the head, indicate in proportion the amount of self-reliance or care for one's own interests which are inherent to the individual. If it rise up to, without touching the line of the heart, the chances are that the person so marked will be of much weaker intelligence of things of the world.

Long and straight, denotes good judgment, a firm will and well-balanced mind. Too long : avarice, meanness.

Descending to the foot of the mount of the Moon, "Poverty, danger of death by drowning."

Ending under the mount of Saturn, *violent death*.

Extending as far as the middle of the hand, indecision, stupidity.

Towards the end, turning to the line of the heart and touching it, *early death*, envy, ill-luck.

THE LINE OF THE HEART.

Distinct, of good colour, beginning at the mount of Jupiter and running to the percussion of the hand—the outside edge—good heart, live, strong and happy.

Beginning under the mount of Saturn, material love rather than spiritual ; united under the forefinger with the line of the head and the line of life, *violent death*. Conclusive if the signs are found in both hands.

Three branches towards the mount of Jupiter, wealth and probably honours.

If at the beginning the line of the heart passes around the forefinger like a ring and ends on the inside in the form of a beard of wheat, proficiency in the occult sciences.

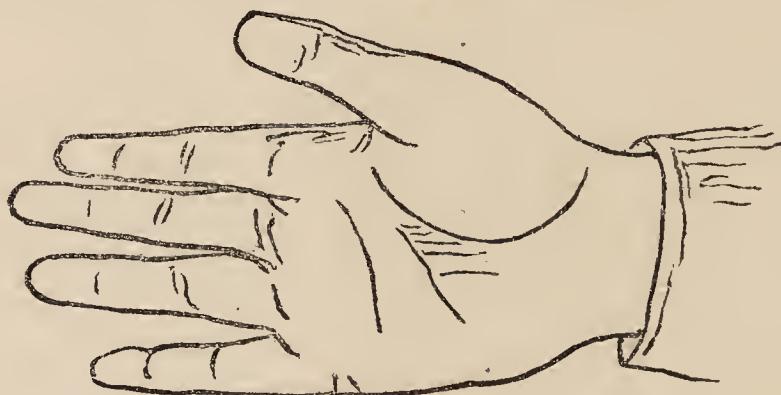
This form, which is extremely rare, is called Solomon's ring. The line of the heart very red, violent love.

Line wanting : bad faith, malice, treachery, implacable will, violent death.

THE LINES OF THE WRIST.

These are called by French writers the magic triple bracelet. Each of these lines represents thirty years of existence. If the lines are a pure, healthy red colour without any break in them, they indicate long life, health and happiness. If the first line on the wrist is a chain, it denotes a life of hard work. If it passes up the mount of the Moon it means tribulation.

Two branches in the line of the wrist describe honours and distinction and great wealth in old age.



THE PALM OF THE HAND.

Here is an illustration of a hand that has two sides to it. The male portion or upper parts of this hand have industry in Mercury ; art based on sciences in Apollo ; ambition and force in Jupiter in the first three fingers, or rather in their bases.

On the lower portion of the hand are imagination; love, and various feminine attributes, as distinguished from hardness and aggressiveness. In one case we have the worker, in the other the *dilettante*. The manly qualities as a rule in one, the feminine or easy going attributes in the other. How do these different qualities come to be united in one character?

A writer upon the language of the hand says that he was staying at a country house, when he met a young lady who came up merrily and asked :

“Can you tell me anything?”

He took her hand and said :

"I see you were engaged to be married, but your pride interfered ; you dissolved the engagement a year or two ago, and your health suffered in consequence."

She at once withdrew her hand, saying, with a vivid blush :

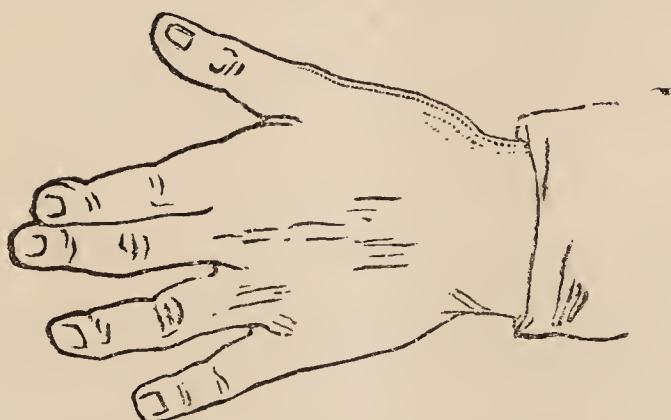
"Quite right, and I *have* suffered ; but no one but my sister ever knew the real truth. You have told the truth. It *was* my pride."

TYPES OF HANDS.

There are seven distinct types of hands according to the science of palmistry. They are as follows : First, the

ELEMENTARY HAND.

The characteristic features of this hand are thick, stiff fingers, short thumbs, thumbs turned back, large, broad, thick palm, very hard. These are the hands of labourers, farmers, and fighting soldiers—men who work laboriously, without thought or originality. Are easily discouraged by adverse circumstances which cannot be overcome by brute force.



THE SPATULATE HAND

Has a big thumb, and comes next on the list. This is a good hand to have. The possessor is an actualist, and not an idealist, and surrounds himself with useful comforts.

THE ARTISTIC HAND,

The third on the list, is a flexible hand, with small thumb and medium palm, indicating love of beauty. It has three distinct types, but in each love of some kind predominates. In the highest it is a love of art.

THE USEFUL HAND

Is of medium size, with well-jointed fingers, palm hollowed and firm. People who have this hand are good organizers and disciplinarians.

THE PHILOSOPHIC HAND

Is a medium-sized pliable hand. Its motto is "Moderation in all things and truth in all."

THE PSYCHIC HAND

Is the rarest and most beautiful type of all. It is small, the fingers without knots, the third phalange long and pointed, the thumb small and well shaped. If the hand is large, and the joints well developed, it has more force, but not so much originality. Such subjects are guided by the ideal, the sublime, and the spiritual.

THE MIXED HAND.

This hand has parts of all the types. It is usual to find that the owner of such a hand is "Jack of all trades and master of none." It is both a perplexing and amusing hand to read, as its lines apparently contradict each other.



A WOMAN'S HAND.

The characteristics of all types apply to women as well as to men, but are less pronounced, as man creates, woman develops. The female hand may be divided into two classes, those with large thumbs and those with small thumbs. English women usually have the exterior phalange delicately squared, consequent on their willingness to adopt household cares. The luxurious women of the East, devoted unto death, have slim hands with small thumbs. The woman with square fingers and small thumbs will have a neat, orderly house. A woman with spatulate fingers and small thumbs will love horses and dogs. Conic fingers and a small thumb indicate a fondness for being loved.

FINGERS AND THUMBS.

"Beware of the person whose fingers turn backward. He is unjust, subtle, ingenious, and the neater his fingers seem to be the more mischievous is he and an enemy to virtue."

Fingers which cling to each other denote a changeable character.

Long and large fingers betoken liberality, true friendship, good condition. Abraham Lincoln had these.

Fingers too short, with thick ends, and fat, will be dishonest and sly.

Fingers that stand apart from each other betoken poverty, wretchedness, and much talk about self.

Nerveless fingers denote a want of character ; trembling, twitching fingers a drunkard.

Small taper fingers, on a woman, show indecision of character, daintiness and deceit. If the nails are oblique, want of courage.

A large, well-made hand inclines to a generous, unselfish, disposition.

Little round nails mean obstinacy and anger and violent love.

Long, pure white nails, especially on a woman's hand, are an indication of a deceitful nature, with great strength and cruel, crafty love.

Red nails signify cruelty, desperate love. Spots on the edge of nails, *violent death*.

THE THUMB.

"The thumb," says Newton, "is to me a convincing proof of immortality." Without it the hand is almost useless. The only animal that has a thumb is the ape, but it is an imperfect member, and does not assist the animal to a more intelligent use of its hand or paw. Roman slaves used to cut off their thumbs because they lacked the courage to go to war, and were considered with abhorrence. Infants, while very young, and idiots, who cannot control thought, have no use of their thumbs, and keep them clasped loosely in the clenched hand. In the language of the hand an authority says :

"People with large hands can produce results unnatural to them easier than those with small ; for example, a large-thumbed mechanician may bring himself to write poetry, but a small-thumbed poet, can never become a practical calculator."

STUDY YOUR HAND.

It is Destiny and not the fortune-teller who has written your life in the palm.

"Be ne'er my forebodings deterred,
But think how oft lives have been blighted
By fears of what never occurred."

It would take three good-sized volumes to give the significations of the lines, crosses, stars, mounts, triangles, branches, circles, points, squares, gridirons and other magic symbols which science has recorded there in letters, which, like the hieroglyphics on the Rosetta stone, tell of a new philosophy. Perhaps yours is a fortunate hand, but even in that case your death is as surely recorded there as your birth and consequent experiences. Your life is in your hand.

Sir Walter Scott, Lord Bulwer Lytton, Napoleon Bonaparte, were all devout believers in the science of chiromancy. Now that this species of fortune-telling has taken a place among the social sciences, it is surprising to find how many of our great and gifted men of a past age practised palmistry and believed in it. The gipsy queen is not always at hand to read the palm, so the philosopher takes her place. M. Desbattolles, the French chiromant, who studied all the works on the subject, practises the art in the best circles of French and German society, even reading the august palm of the Emperor, but keeping the knowledge a profound secret.

The books upon the subject can now be obtained in any bookstore. They are : "The Language of the Hand," "The Science of Modern Palmistry," "Psychonomy of the Hand," and any one of these books will teach the science. It is not necessary to possess more, as the same matter treated a little differently is in them all. It is the cheapest of known sciences, and as Dryden said in his Juvenal :

"The middle sort who have not much to spare,
To Chiromancer's cheapest art repair,
Who claps the pretty palm, to make the lines more fair."

Detroit Free Press.

ACCOUNTABILITY.

WHY is man accountable?

Because he has invested in him a power to influence others for good or evil ; and he has no right to influence others for evil whereby they will fall into temptation, get into difficulty, and suffer. Persons are prone enough to do wrong without help. The relation of human beings is such that we help to form the characters, develop and guide the minds, of those who come under our influence ; and if we influence them to pervert the use of their minds, or knowingly give them wrong information how to act, we are accountable for the wrong bias ; for we have no right to lead others astray.

We are exerting an influence for good or evil according to our own tone of mind. If we are corrupt and impure, our influence will be in harmony therewith. If we are just, pure, and true, we shall exert that kind of influence ; for we cannot act in one way and influence in another way.

Completeness of organization, fulness of development, balance of power and accountability go together. All deviations from this standard decrease accountability until there is none. A person then who has a perfect development of the body with a healthy condition of all its organs and functions,

and a perfect development of the brain in an active and healthy condition, with all the powers of the mind in full action and cultivation, is fully competent to obey all the laws of his being and the requirements of his Creator. God requires us to do the best we can with the organization we have, and the circumstances surrounding us.

Phrenology teaches that accountability depends upon organization, natural ability, and opportunity for improvement. A fool and a wise man may stand side by side, but not equally accountable. That there are moral idiots as well as intellectual idiots, and physical imperfections, no intelligent man can deny; nor that a child is not to blame for its natural defects. It is also a fact that some children and nations have the advantage over others in a superior organization. Some nations advance and retrograde. Phrenology teaches that the depravity and deformity of the race arise from the violations of the laws of his nature; from the perverted use of his powers; from his imperfect development; from bad education and habits; from bad parentage, &c.; that man is accountable according to what he has by nature; that no faculty is naturally bad; and that man is bad by the bad use of his gifts, and by yielding to wrong reasonings. Man is accountable, collectively and individually, during life and after death, for our works do follow us.

L. N. F.

AN EXTINCT SCIENCE.

A SUBSCRIBER sends us the following paragraph anent phrenology, cut from a weakly—we beg pardon—weekly paper, devoted to health topics:

“SCIENTIFIC.—Phrenology is an effete and extinct science—such is the dictum of modern physiology. If you care to read Dr. Carpenter’s ‘Mental Physiology,’ and learn from that what is now known regarding the functions of the brain, you will see that phrenology has no longer any standing as a science. Phrenologists ‘read’ character from observing your general disposition, countenance, manner, &c., not from any so-called observation of ‘bumps’ or ‘organs’ of the brain—which, by the way, have no existence.”

There are two or three points in this judgment which call for a word or two of notice, although, practically, the writer’s opinion has no more value than if it were a puff of wind from a bellows. First, then, phrenology is neither effete nor extinct, let “modern physiology” say what it likes. But “modern physiology” says nothing of the kind: it is the *soi-*

disant "modern physiologist," with his bigotry and self-sufficiency, who takes upon himself to make such statements.

Secondly, with all due deference to Dr. Carpenter, the anatomy and physiology of the brain, as explained in his admirable "Mental Physiology," cannot be taken as the final elucidation of that subject. Mental physiology is still in its infancy; and if the writer of the above paragraph has not yet learned its limitations and his own ignorance, he is yet on the threshold of knowledge.

Thirdly, phrenologists do not "read" character from "observing your general disposition." When will these so-called scientists cease trying to get themselves out of a dilemma by advancing statements that they cannot support? How can a phrenologist know your disposition when he has never seen you before? Why don't these gentry try to give a phrenological delineation from the same data?

But it is of no use exposing the ignorance of these dogmatists, who think their own small span encompasses all knowledge: they will go on in their own way, and still declare that beyond the limits of their own knowledge there is nothing.

What does it matter, after all, what they say, or what we say? Knowledge is knowledge to none, until he know it. The best way in all these things is to take no man's dictum on any subject, but examine and judge for yourself. Let each take this course in regard to phrenology, and we are not afraid for the result. We have no quarrel with anyone who, having examined phrenology thoroughly, cannot be convinced that there is something in it; but we complain of those who, without such examination, take upon themselves to pass authoritative judgments, and say, this being true, that or the other notion becomes extinct. The world, friends, is bigger than any man's back garden yet.

BATHING AS A PROTECTION AGAINST CHOLERA.

MR. EDWIN CHADWICK, the well-known sanitarian, writes to a contemporary as follows:—

"Some of your correspondents are properly urgent on the policy of extending accommodation for bathing for the use of the poorer population as a preventive of the propagation of Asiatic cholera. Will you allow me to repeat what I stated recently in an address to the Association of Sanitary Inspectors on the need of cleansing persons as well as places as a

factor of sanitation, and particularly on a cheap means of applying where no public baths are available?

"While much preventive service may be effected by the cleansing of places, very extensive prevention may be effected by active measures for the cleansing of persons. At the last epidemic visitation of cholera, which fell severely upon Limehouse, the children of the pauper half-time school were distinguished by their entire exemption from any choleraic attack. The distinction was due to the careful head-to-foot washing with tepid water. The like distinction of immunity was presented in other half-time district schools in the metropolis. Indeed, we had experience of its efficiency in ordinary times, which enables me to present it as a factor of at least one-third in sanitation. Thus, in a children's institution where the death-rate was twelve in a thousand, it was pervaded by sewer gases. These were cleared away, when the death-rate was reduced by one-third. Then followed provision for regular daily head-to-foot ablution, when the death-rate was reduced by another third. The experience is similar with the washed populations of prisons. Sewer gas got into the Pentonville Prison, and the cholera got in with it; but the other well-situated and well-drained prisons, with their well-washed populations, presented examples of entire immunity from the epidemic, as they do now from the ordinary epidemics which ravage the outside populations. Nurses trained on Miss Nightingale's principle, who devote themselves to the speciality of nursing in the most infectious cases, those of scarlatina, give themselves head-to-foot ablutions with tepid water twice a day, and give themselves a daily change of clothes, and with attention to ventilation in the patient's bedroom, and to other precepts of Miss Nightingale on nursing, secure complete protection to others as well as to themselves. Health officers who had gone without harm through the most dire plagues declared to the Academy of Medicine of France that they owed their security to the double head-to-foot washing with warm water. It is satisfactory, amid the low retrograde sanitary administration, and the great loss of life occasioned by it in France, to adduce a valuable sanitary improvement from thence. The colonel of an infantry regiment, Colonel Louis, has introduced a method by which he gives a superior cleansing with tepid water at a tenth of a penny per head per man. The man undresses, steps into a tray of tepid water, and after being wetted with a spray, soaps himself thoroughly, when, with a two-handed pump, a powerful spray of tepid water washes him from head to foot. Perhaps there is a double soaping. This is really a

most valuable sanitary invention. The work is done better with five gallons of water, against eighty of the bath, and in less than five minutes of time instead of twenty. In Germany they are advancing upon it in rapidity by arrangements of recesses, in rows, in which men enter in squads, and are submitted to simultaneous douches of tepid water. In fact, the cleansing by the jet has been introduced into Australia for bleaching the fleeces of sheep. They tumble the sheep into tanks of warm soapsuds. They are taken out and a powerful jet of warmed water is directed upon them, when the blanching is effected, which reduces the weight of the fleece by one-third, at an expense of twopence each. Apparatus on the principle stated ought to be attached to schools, for relief from the foul atmosphere of filthy-skinne*d* children, which generates the eruptive diseases, and is particularly needed for the poorer classes of the single-chambered families, who have no convenience for the process. It should be stated, as being proved, that a washed pig puts on a fourth more flesh with the same amount of food that is consumed by an unwashed pig. The foremost direction of sanitary administrative force might well be given to the general application of the principle of washing with tepid water by the jet as a most effective preventive factor, on which a proclamation may be issued and promulgated from the pulpit on the text, 'Wash and be clean,' as a defence against the coming pestilence, as well as against those we frequently have with us."

TWO ON A BERG.

A TALE OF THE ARCTIC SEAS.

BY CAVE NORTH.

MANY years ago two men who hated each other sailed together to the Arctic Seas. They were sailors. One of them was my grandfather, who told the story ; his name was Abraham Luck ; the other's name was Joseph Evans. They had been friends in their youth, but had fallen out about a girl whom they both loved, but who, as it proved, was worthy of neither. Luck, as they thought, was the luckier of the two ; he was the favoured one, and because he was, Evans hated him with an almost fiendish hatred. In the long run, however, Luck proved to be no more fortunate in his love than his rival ; for coming home from a long voyage that was to have marked the term of his single life, he found his betrothed the wife of another, a thriving tailor. Incensed beyond the bounds of patience, Luck was perhaps only too ready to believe any explanation of his sweetheart's unfaithfulness that was poured into his ear. When,

therefore, idle gossips told him that his quondam friend, Evans, had traduced him to his sweetheart in order to be revenged on him, he believed the tale, and hated him as heartily as he was hated. So they never met but there were angry words or black looks between them.

Several years had passed by, and both were verging towards the middle period of life, when Abraham Luck and Joseph Evans found themselves on board the same ship, bound on a whaling cruise to Davis' Straits and Baffin's Bay. The meeting was quite unexpected, and the two recognised each other with a broad, implacable stare, but without a word of greeting. Luck was the first mate, and Evans the second.

Let not the reader start with a wrong idea of the two. They were not bad men. Luck was an honest, good-natured, well-doing man, esteemed by all who knew him, and a good husband and father to boot, for he had long got over his first disappointment, and was a happy husband and father. Evans, too, was a steady, hardworking man, not bad at heart, but regarded by those who were acquainted with him as just a little cross-grained.

So the two sailed together in the *Stormy Petrel*, and seldom had a word to say to each other, either on deck or in the forecastle, beyond what was absolutely necessary in the discharge of their duty.

It was irksome enough this smouldering enmity between two persons brought so close together in this every-day life of their narrow ship-world, and often did Luck wish the voyage at an end. He felt that he was guilty of a sneaking cowardliness in thus keeping up a life-long enmity towards a man who had once injured him ; and many a time he was on the point of proffering his hand, and asking for a return of the old friendship ; but pride kept him back—pride, which would creep into his heart, and coddle the old wrath.

Only one incident happened to break the monotony of the early part of the cruise. They were in the Bay, and having sighted a whale a boat was put out to pursue it. Luck commanded, and Evans was the harpooner. They succeeded in approaching sufficiently near the whale for the latter to strike the prey. On being hit, the monster immediately plunged, dragging Evans overboard, he having unfortunately got the harpoon rope entangled about his wrist. The rope ran out with terrific rapidity, and before the crew knew what they were about, they were being pulled towards an ice-floe. Suddenly the boat's motion through the water slackened—the whale was evidently exhausted. Then the boat came to a standstill a few rods from the floe, under which the whale had plunged.

The first thought that now occurred to every one was as to Evans's precarious position, he having disappeared along with the whale under the ice. Luck felt something like a thrill of pleasure as the thought occurred to him : "Now there will be an end of this irksomeness."

At the same moment the words escaped him :
"That's done for Joe!"

"Ey, ey!" said an old seaman, "I'm afraid it has; " but we musn't give him up so!"

Luck felt this like a reproach. The next instant he shuddered at his own heartlessness, and ordered his men to haul away at the rope with a will. This they did; and they had the satisfaction, within a very brief space, of seeing Evans drawn back into the boat. He had been several minutes under water, but the restoratives that were immediately administered soon revived him. Luck saw him about again with a feeling of relief, but at the same time with the uncomfortable consciousness that he had almost murdered him in thought.

Meeting him on deck shortly after he came round, he said—

"You had a narrow squeak of it, Joe; but, thank God, you are all right!"

"Ay, ay, mate," answered Evans, turning away; "but some, I take it, would have been glad if I'd gone to Davy Jones."

This surly reply nettled the first mate, who was thinking that the incident afforded a good opportunity for wiping out the old score, and beginning anew with a fresh reckoning. Evans's answer, however, threw matters back pretty much into their old groove, and Luck thought, with some bitterness, "It will be long before I try to smooth the way for a return of friendliness again."

Nothing else occurred to break the monotony of life on board the *Stormy Petrel* for some time. Fish were not very plentiful, and so the captain was tempted to linger longer than he otherwise would have done, in order that he might return with a good cargo of oil to gladden the hearts of his employers. Indeed he lingered until abundant signs told him he must now make all haste southwards, or run the risk of being shut up in the ice.

On the first day of the homeward journey but little headway was made, the wind being contrary. Towards evening they chanced upon shoals of floating ice, with large bergs in the distance. To make matters worse, the night fell with a good deal of fog, so that the captain found it necessary to take in most of the sails, leaving only sufficient stretched to keep the ship moving, so as to prevent them being frozen up. Towards morning the wind freshened, and by noon it was blowing a gale. All day they tacked amid seas of floating ice. The captain was troubled and anxious, and kept scanning the east, whence the wind came, with his glass, as if in hopes of seeing the last of it. He invariably finished, however, with an ominous shake of the head. By nightfall matters had assumed a very grave aspect. The masses of floating ice had increased in number and size. Some of them had the appearance of floating mountains, their peaks almost touching the clouds. It was with extreme difficulty they managed to steer the *Stormy Petrel* clear of them. As the sun, which had shone fitfully during the day, threw its last lurid gleam from amidst a bank of cloud in the west, it marked, as with tongues of flame, an apparently endless series of icy peaks right in the track in which they were going.

Just at this moment, Luck was standing by the captain's side.

"If ever I sail Davis' Straits way again, blow me!" said the captain. "I've said a good many times I would not come north again, but this shall be the last time. Do you know, Luck," he continued in a lower tone, "I've dreamed these three nights that my wife has said to me, 'Don't go north again, Will,' and I've said, 'No, lass, I won't.'"

The disappearance of the sun was followed almost immediately by intense darkness. The captain ordered all sails to be close reefed. Presently the sky cleared somewhat, enabling them to survey the scene; and a terrific one it was. The ship seemed to be in a narrow basin, surrounded on every side by high towering ice-cliffs—black and threatening. The dark cordon was dimly visible, and seemed to the excited imagination of the beholders like a ring of giants advancing to their destruction. The circle was visibly narrowing, the bergs bearing down upon them slowly but surely, with a grinding, crunching noise, horrible to hear. There appeared but one way out of the basin, and that was but a strait one between two immense pillars. Captain Addis ordered the helmsman to steer for it. The moment was an anxious one, for each instant the huge icebergs seemed to lessen the space between them. Hesitation, they knew, was fatal; although to enter that narrow passage seemed to be running into the very jaws of death. Luck stood near the helmsman; Evans was by his side. Everyone waited with bated breath, profoundly anxious as to what the next moment would bring forth. The ship entered the strait. Not a soul there but shuddered as they passed betwixt those huge approaching jaws of ice. They seemed to feel the icy breath, and the throbbing of the waves in the great channel seemed like the eager pantings of a hungry monster. To look up was like looking out of a pit. Beyond, however, was seen dimly an expanse of water that promised safety. Another minute, and probably all would be well.

"If we come safely out of this, we may thank our stars," said Luck, to the second mate.

"Ay, Ay!" replied the latter surlily.

The next moment the *Stormy Petrel* had cleared the yawning gulf.

But what was that that made the good ship lurch, and threw the helmsman, and several others off their feet? She had evidently struck on the submerged portion of an ice-pack. They had but escaped the teeth of Scylla to fall into the jaws of Carybdis. They were quite blocked, the ship seeming to have lost power of motion. The situation was enough to make the boldest quail. The ship appeared to be held as by some invisible demoniac power, whose infernal grip made the life-like thing shudder from keel to masthead; while to windward loomed a huge mountain of ice, which was bearing down upon them—slowly, it is true, but with the aim and certainty of a hostile ram. Despair seemed to seize on every heart. One man, named Dick Pidduck, seized a marlinspike, and brandishing it at the threatening berg, exclaimed—

"Come, if you dare, you devil, and I'll smash you!"

He had scarcely uttered the words ere a crunching, grinding noise was heard, while the shiver of a slanting impact ran through the vessel, and shook every one to the heart. A confused cry of horror arose among the crew. The next instant the stout hull of the *Stormy Petrel*, that had braved a hundred storms, cracked and splintered like the shell of a nut. Every one on board—impelled by the same instinct—jumped overboard to leeward, and made for the ice. Luck succeeded in reaching it, and besides him there were eight others saved, among whom were Evans and Pidduck. They saw their good vessel literally ground to bits, and borne under by the Titanic force of the colliding ice-packs. It seemed, too, for a time as if the mountainous mass which had smashed the ship would also grind to powder or bear down the lesser floe on which the remnant of the crew had taken refuge. The struggle lasted some little while, and then the huge berg forced a way round the southern edge of the ice, and was soon lost in the night.

There was now even water where a few moments before the puny death-struggle between the *Stormy Petrel* and the iceberg had taken place, and portions of the wreck were seen floating on the surface.

But it was too dark and dangerous to attempt to rescue anything before daylight. All the poor castaways could do was to keep moving about as briskly as possible in order that they might not freeze. One poor fellow, however, died before morning.

At length day dawned and enabled them to estimate the extent of their desolation. The state of things had changed very much during the night. They were still surrounded by masses of floating ice, but it was drifting more and more apart. The wind had calmed down, and there seemed to be a steady current southwards, or south by west. The huge towering bergs by which they had found themselves surrounded in the early part of the night, were far away to the north. Taking a survey of the ice on which they had saved themselves, they found it to be an immense pack, some acres in extent.

During the day, the castaways managed to save a good many odds and ends from the wreck: spars, some bedding, several sea-chests, a barrel of biscuits, and two kegs of rum. The latter was hailed with the greatest satisfaction by most of the men, and in spite of remonstrance the end of one of them was soon stove in by Dick Pidduck. Then the lone iceberg was ere long like a pandemonium, the drunken sailors dancing about and howling like fiends.

Up to the present time Luck and Evans had scarce exchanged a word together since the wreck. They stood or sat apart, each chewing the cud of his own dismal reflections. They were the only ones sober. Each had soaked a biscuit in rum and eaten it, and by that means, the clothing they had managed to save, and almost constant motion, they succeeded in keeping themselves warm; for it was biting cold.

Luck now approached Evans and said, in an undertone, so that none of the others might hear him—

"Had we not better pitch the rum into the sea again, otherwise they won't let it alone until they've drunk themselves to death?"

"You had better try to do it," answered Evans, without moving or even looking at him.

Luck turned away, and presently went towards the open keg of rum. But Pidduck, as if divining his intention, came up with a piece of spar in his hands, and lifting it threateningly, cried—

"Hands off, Mr. Soberchops!"

Luck walked away, and as he did so he heard a low derisive sort of laugh proceeding from the second mate. It nettled him, as it had often done before, and he resolved that, come what might, he would not try to make terms with his enemy again.

There was nothing for it now but to keep apart from the rest of his shipmates, and watch them—with the sole exception of Evans—make beasts of themselves more and more with drink. After night had fallen, he sat huddled in a tarpaulin, leaning against a block of ice that served at once as a shelter and support, and had fallen off into a doze, when he was suddenly awakened by a shrill scream or howl, and immediately afterwards a splash in the water. There was a burst of foam, a widening ring, and all was as black and still as before. It was a young fellow named Peter ; he had been a teetotaller until the wreck, but had then taken to drinking rum with the others, and finished by going mad, and jumping into the sea. When again the light came up over the ocean, another of the men was found frozen to death.

During the third day the ice-raft on which the castaways were, parted company with the others, and gradually drifted out of sight. They had evidently passed Davis' Straits, and were floating steadily southwards. On this day and the next, neither Luck nor Evans spoke to each other, but sat or walked apart moodily, allowing Pidduck and his companions to take their own course, since remonstrance was vain.

During the following night two more of the crew died of drink and cold. Pidduck—the only one remaining besides Luck and Evans—now charged the latter with having murdered his messmates, and with entertaining the intention to murder him also, in order that he might have the remainder of the rum himself.

The man was the picture of a maniac—his face haggard and emaciated, and his eyes half starting out of his head. He stood over Evans in a threatening attitude, and the latter, depressed through exposure and anxiety, felt in no conciliatory mood.

"It was not I—it was you, Pidduck, who murdered them," he said.

"I!" exclaimed Pidduck.

"Yes, you, by starting them on drinking, and continually egging them on!"

Pidduck picked up a splinter of wood, and aimed a lungeous blow at Evans with it ; it would have felled him had he not dodged it. The next moment they closed, and Pidduck being considerably the

bigger of the two, it would have gone hard with Evans had not Luck suddenly started up, and come to his enemy's assistance. He was a little, wiry man, all nerve and muscle, and his sinewy right hand clamped on Pidduck's throat soon made him let go his hold of the other. The balked ruffian, however, glowered at him for a minute or two in sullen hate, and then, when his back was partially turned, made a dash at him with lowered head, like a frantic bull. His intention evidently was to bowl his antagonist over the edge of the ice by the sheer weight and impetus of his onset. But Luck was too quick for him : seeing his intention, he sprang on one side, and the drunken madman, unable to stop himself, met the fate he had intended for the mate. He fell into the water with a loud splash. Both Luck and Evans ran to the spot to assist him when he should come up, but he never rose to the surface again.

The two enemies were now left alone on the iceberg. What would they do? Would they turn and rend each other, or sneak sullenly apart, and keep up their mutual feelings of hate until death should put an end to their miseries, as it had done to those of their fellows ; or would they, in this supreme hour of loneliness and danger, become reconciled ? In the one case there was an indisposition to give up an inveterate feeling, and in the other the dread of another rebuff. The old devil pride, too, was still at work.

As much as men in such a position could live apart, they did. They hardly spoke, save as they were bound by instinct to do, for the discipline of a ship, in which all are compelled to work together for the common safety, becomes a second nature with the sailor. Thus by a kind of tacit understanding, when the others were incapable, they had taken it in turns to keep a look-out—each watched half the night while the other slept. This arrangement they now continued.

The morning after the death of Pidduck, Luck observed to his companion that he thought they ought now to be reaching such a latitude as to stand a chance of meeting with a ship.

"Ay, ay!" returned Evans.

"I should think," continued Luck, "we have biscuit enough to last six days longer with economy."

"Just about."

This was all the conversation that passed on that day. They walked about, or sat muffled in their wrappings, scanning with anxious eyes the horizon. It was terrible work to watch hour after hour the leaden and clouded sky, and the intense green waves—a few sea-birds only rarely enlivening the scene ; to behold the sun rise or the dawn break, and slowly shed its grey light over the throbbing sea ; to count the tardy hours until the day changed into twilight, and the twilight gave place to darkness ; and then, through half the night, often starting to listen to the sigh of the wind and the ceaseless sobbing of the waters.

Four days ran tardily away in this manner, and the end seemed to be coming, as the end sometime must come. With all the pinch-

ing in the world the biscuit could not be made to last beyond two more days, eke it out as they might. The portion they had allowed themselves for the past two days had been barely enough to support nature. The presence of keen, continually unsatisfied hunger is a state of constant delirium, though in a mild and moderate form. Do what he would, Luck could not help his thoughts running continually on food. He imagined it in every form ; it appeared to his disordered sense in abundance ; there was nothing that he had ever tasted, or heard of, or seen, but it tantalised his absorbing hunger. He thought of men placed in a similar position to the one in which he and his comrade were placed, satisfying the demands of nature on each other. He even found himself regretting that they had thrown the men overboard who had been frozen to death in their drunkenness. In the midst of this hunger-delirium, he found himself glorifying in the fact that Evans failed to eat his portion of the rations. His biscuit remained untouched, and Luck gloated in the idea that there would be the more for him. The thought took such a hold on his imagination, that he began to speculate how long his companion could survive, and then as to how long he might be able to protract his own life on the other's dead body. He dreaded lest his foe should begin to eat again.

These lucubrations were doubtless very horrible, but it must be borne in mind that the intellect, and even the moral faculty, is often tyrannised over by the senses—that is, by the grosser and more purely animal part of the nature. Luck had a perfect consciousness of the horribleness of his cogitations, and tried to change their drift, but in vain. He had even a notion that he might go mad under the strain of misery, that his mind had entered the first stage which leads to insanity. The thought was itself maddening, but there was no help, at least none was patent to his thoughts.

The cure to this downward tendency came in a curious manner. He had taken his turn at watching, and had wound himself in his wraps for a sleep. His brain, however, was too fevered to allow of calm rest. All he could do was to get fitful naps, in which he was tormented with the thought that his companion was still going to escape him. Out of one of these he was awakened by a heavy downpour of rain. Before he was aware of it, he was drenched. After the first impact of the cold water on the skin, the sensation was one of delicious enjoyment, so that instead of rising and throwing off his wet incumbrances, he continued exposed to the deluging shower until every rag about him was soaked. The shower lasted about half-an-hour, and then the sun broke out. Throwing his wrappings off, and moving about in the sunshine, Luck felt himself quite a new man. Seeking then for Evans, whom he remembered he had not seen for several hours, he discovered him beneath a ledge of ice, by means of which and a tarpauling he had managed to shelter himself.

"I wondered where you had got to," he said, with a feeling of relief at finding him.

"Did you think I had been washed into the sea?" responded the other. It was said in a tone of voice that struck strangely on his companion's ear, it was so unlike his usual hard metallic tones. Luck scanned him closely, and noted a wanness of face and a glassiness of eye that surprised and terrified him. He now remembered that for the last day or two Evans had hardly bitten, and recalled with horror his own gloating anticipations of his speedy decease. The idea that his end might actually be near sent a thrill of dread through Luck. In his sober moments he had not looked this possibility in the face; in all their misery he had scarcely questioned the certain fruition of his hopes of rescue. Now the thought of being parted by death seemed to outdo and nullify all previous wretchedness.

"You are ill, Joe," he said to his companion, using the old familiar name for the first time for years; "you have scarcely bitten for two days. Have a drop of rum and water, and a bit of biscuit; it will revive you."

"No thanks, mate," he replied, "I shall do very well."

Luck sat by him, with an infinite tenderness in his eyes, trying to think of something he could do for his comrade in disaster; but he racked his brain in vain; there was nothing for it but to watch the gradual approach of death. During the night Evans became delirious, and in his delirium he talked as Luck had previously dreamed, of food. To the eye of his wandering mind were presented fish, and flesh, and fowl, in every shape and variety.

"Bring that bird here!" he exclaimed, extending his hand, and then added, with a wild laugh: "Did you ever see a roasted bird fly?"

So he rambled on through the night, every now and again dozing for a few minutes. During his periods of delirious talk, he frequently repeated one and the same thing: he would start, and put away with great energy something he imagined some one was giving him to eat.

"No, no!" he would say, "I don't want it. I can die; there is no need for me to live; no one depends on me. Give it to Luck, he must live—he has got a wife and children to look after; they must not be left without a bread-winner!"

This idea, in varied phrase, was repeated again and again. It was deeply affecting to Luck.

Towards morning Evans sank into a deeply unconscious state, and his grieved companion deemed it was but the prelude to the end. Hard and rough as he was, used from his boyhood up to the ruder sides of life, he could not restrain his tears.

The grey dawn was just streaking the east, when looking in that direction he thought he saw something like a sail. He gazed for a minute or two, hardly daring to hope, but to make more sure by the increasing light, he climbed to a higher point of the berg. He watched intently for several minutes, and the more he watched the more sure he was that there was a ship. At length, with the bound of a child, he ran back to the spot where Evans was lying, and shouted:

"Joe, cheer up ! a ship ! a ship ! "

But Joe only murmured in his unconsciousness.

Luck hastened again to the signal post, and looked eastwards. He could now distinctly make out a full rigged ship. His heart beat painfully in the fluctuation of his feelings between hope and fear—between the hope of rescue at last, and the fear lest the ship should not see their signal—the hope that his comrade might last until succour came, and the dread lest he showed die ere it was at hand. In this feverish state of excitement he passed the time between this look-out and his friend. Presently the hull of the ship became visible. It seemed to be bearing directly towards the iceberg.

At length, after waiting anxiously for more than an hour, he had the satisfaction of seeing the vessel haul to a little to windward, as though it had seen the signal, and put off a boat. It approached nearer and nearer; he could almost count the number of men in it. He ran to the spot where there was the easiest landing to await its arrival. For a moment his eyes had been taken off the boat, and when he looked again, lo ! it had disappeared. There was the ship still, but where was the boat ? Could it have sunk ? There was no commotion on the water—no nothing ! What could have become of the boat ? Luck stood rooted to the spot. Was ever man so bewildered. What wonder that in his excitement his brain should begin to whirl, and his limbs to totter ! He fancied he saw the ship itself begin to move away, then everything melted from before his eyes, and he fell to the ground.

When he came to himself again, and recalled what had taken place, he looked to seaward, and behold, there was the ship sailing away sure enough ! In an agony of disappointment, he ran to where his dying companion lay. He, too, was nowhere to be found ! What could have become of him ? Could he have got up and wandered away in his delirium ? The strange part of the business was that his wrappings were gone too. Luck rushed about the ice island like one frantic. Having searched in vain the side he and his companion had kept to, he clambered over the rugged elevation in the centre, whereon the flag-staff was placed, in order to search the other half. Guess his astonishment to see there also a ship bearing away before the wind. He involuntarily turned about, and saw its counterpart away on the other side of the island. The truth now began to dawn upon the poor mate's bewildered mind. He had been gazing upon the reflection of the actual ship and its boat, and while he was so doing, the real boat of the real ship had pulled to the berg, and carried off his comrade. This was the worst stroke of all.

"Lost, my God ! lost !" he exclaimed, as he threw himself prone on the ice in an agony of despair.

For a long time he lay there hardly knowing what he did. Meanwhile, as Luck had surmised, Evans had been received kindly, and given every attention, on board the vessel his companion had seen bearing away south. He was found, of course, in the spot where the mate had left him, and being still unconscious was unable to inform

his rescuers that he had a companion in misfortune. When brought on board ship, he was at once put to bed, and given some nourishing food. In the course of a few hours he revived consciousness sufficiently to be struck by the strange faces about him, and to ask for his companion in misfortune. He was told to lie quiet, and Luck would come soon. This seemed to satisfy him for a time; but presently he rose up and asked where he was, and if Luck had been saved. It was in vain to try to put him off this time, and when the Captain was brought to see him, and he told him that his comrade had been left on the ice, the worthy fellow at once resolved to put back, and rescue him if possible. It was now nearly dawn, and after tacking for several hours, the man on the look-out sighted the ice. Shortly afterwards a boat's crew succeeded in landing. They found the mate sitting with a tarpaulin about him. As soon as he saw them he jumped up, and after staring in a wild, blank manner for a second or two, he drew the tarpaulin about his head, and threw himself on the ice.

One of the sailors, imagining that his sufferings had affected his brain, said, patting him on the shoulder—

“Come, mate, don't let's have to put off a second time without you!”

Luck uncovered his head, and looked at the speaker fixedly for a moment or two, and then rose to his feet. His first words were :

“Did Joe Evans send you back for me?”

“He told us you were here, and the skipper sent us back to fetch you.”

“Well, Joe's a brick after all!”

Once on board ship, a good meal set Luck all right again. Two or three days elapsed, however, before Evans was quite recovered. On his being able to get about, and to talk without danger, the mate said to him—

“I say, Joe, you starved yourself so that there might be more for me. Come, confess!”

Evans looked at him with a look of quiet surprise, but answered—

“What put that nonsense in your head, Abe? Do you think I should be such a fool?”

“You did it, Joe; you know you did!” returned Luck, wiping his eyes.

“Did I? Well, let it pass! You saved me, and so we're quits.”



THE best time for marriage will be toward thirty, for as the younger times are unfit either to choose or govern a wife and family, so if thou stay long thou shalt hardly see the education of thy children, who, being left to strangers, are in effect lost; and better were it to be unborn than ill-bred, for thereby thy posterity shall either perish or remain a shame to thy name.—*Sir Walter Raleigh.*

Book Notices.

*The Woman Question in Europe.**—A recent German writer, distinguished for his liberal views on the problems of the day, has lately endeavoured to show that the past is full of signs and the present full of promise for the complete independence of the woman of the future. Before many years are over, in his opinion, the Woman Question will be solved by giving the two sexes the same position in all departments of life. In face of the difficulties which present themselves at almost every step to the advocates of the emancipation of women, this assertion seems rather too optimistic, especially as coming from Germany, a country which lags so much behind almost all other European countries in this matter. There is, however, no doubt that the movement is progressing surely and steadily all over the civilized world, and nowhere has this been more clearly brought out than in the present volume. Mr. Stanton's excellent collection of essays is the first to supply a comprehensive survey of the movement as a whole. To give an impartial estimate, and to furnish facts, those were the leading motives with which the editor set out, and in order to do this thoroughly he invited one or more distinguished women in each country to give their estimate of the state of the Woman Question. This request has been complied with, excepting in the case of Portugal and France, the essays of which were written by men. The result is a series of well-written articles, each headed by the name and a short biographical sketch of an eminent woman of our time.

What's in a Name.†—There was a time when every name had a meaning—when even “Snooks” meant Sevenoaks; “A'Becket,” living at the little brook; and “Truefit” was the wood where the great god Thor was worshipped. The mere fact that a name is now nothing but a symbol—a sort of ticket to be entered in a Directory or a Register—does not rob it of its historic interest, and perhaps if men understood the dignity which may attach to an ill-sounding name they might not be always in such a hurry to exchange it for one with more aristocratic associations. The gentleman who some years ago was tired of being called “Bug” and took instead the surname of “Howard” has become a proverb amongst us. He would, perhaps, have thought twice before making the change had he realised that Bug or Bogie, if not actually a god, is at any rate a very powerful demon, whilst a “Norfolk Howard” means nothing more than a pig keeper (hog warden) in a northen country. Mr. Long tells us that

* “The woman Question in Europe: a Series of Original Essays.” Edited by Thomas Stanton, M. A., With an Introduction by Frances Power Cobbe.

† “Personal and Family Names.” By Harry Alfred Long. (London : Hamilton, Adams, & Co.)

the chief difficulty in a book of the kind that he has given us is that of overcoming dryness. This certainly does not strike us in looking at it. We should rather say that his embarrassment arose from superabundance of material, and the necessity under which he appears to have laboured of compressing his work into one small volume.

Facts and Gossip.

WE have received the following from a gentleman, Mr. E. Bacon, of Paris :—

“I thank you for giving my address to Mr. C——. On his arrival in Paris, from Spain, he came at once to me, and learning that I had a vegetarian table, he took a room in the vicinity, and arranged to eat with me. He and one of his brothers have, through your writings, been converted to all that is good in phrenology, vegetarianism, and health-reform. His brother visited you about four years ago and got a chart and subscribed for your journal. This brother, now with me, was thus made acquainted with your teachings; and I assure you that never did good seed fall upon better ground. I cannot tell you how happy I am to know such a man, and to be able to provide for him such a table as he desires. He and his brother have rejected the use of meat, wine, tobacco, and every unnatural stimulant, and have become the truest reformers in the best sense of the word. On the 15th October I take an apartment, where my admirable French housekeeper, who has adopted purely hygienic principles, will set an ideal vegetarian table, and where we could accommodate still another boarder. We have the choicest fruits, farina, and vegetables, prepared as I never saw food prepared outside of France. At this place I am organizing a school of languages, with excellent native professors, and Mr. C—— is to be the instructor of Spanish, for which he is eminently capable. I trust that my rooms will become not only a centre of instruction, but of all that contributes to physical and moral right living. Mr. C——, as well as myself, has some of your publications, and we must have others. You are sowing good seed over the whole world, and, where you are least aware of it, it falls upon rich ground and bears fruit a hundred-fold. The noble young man whom you have introduced to me has derived a benefit from your writings sufficient to justify your life-work, for the planting of *one* good seed in human soil is enough—if one could do no more—to bless the whole life and give peace in the dying hour.”

A CORRESPONDENT calls attention to the following passage from Goethe's prose works apropos of Thought-reading :—

“One soul may have a decided influence upon another, merely by

means of its silent presence, of which I could relate many instances. It has often happened to me that when I have been walking with an acquaintance and have had a living image of something in my mind, he has at once begun to speak of that very thing. I have also known a man who, without saying a word, could suddenly silence a party engaged in cheerful conversation by the mere power of his mind. Nay, he could also introduce a tone which would make everybody feel uncomfortable. We have all something of electric and magnetic force within us. . . . it is possible, nay even probable, that if a young girl were, without knowing it, to find herself in a dark chamber with a man who designed to murder her, she would have an uneasy sense of his unknown presence, and that an anguish would come over her which would drive her to the family parlour."

This is very interesting, although we do not for a moment suppose that Goethe would have amused himself in watching the discovery of a pin. Would any thought-reader in taking a country walk with a novelist be able to discover the plot of a new novel that novelist had cogitated and was about to put to paper?

SOME doubts have arisen as to the whereabouts of the remains of Washington, or at least part of them. An old man, aged ninety-seven, by name Henry Lamb, who died the other day in the neighbourhood of Richmond, in the United States, had lived for a long time near Mount Vernon. To his dying day he asserted that the vault containing Washington's remains had been broken open to his certain knowledge, and the skull carried away to France, where it was sold to a firm of phrenologists. According to his account the desecration was committed by the sailors of a French ship anchored in the Potomac, near Mount Vernon, and he alleged that the skull which was taken away was replaced by that of a negro servant of Colonel Fairfax. It is not perhaps a matter of much moment, but if France really has got any part of Washington it ought to be returned to the United States as soon as convenient.

THE *Medical Times* says:—It is now more than ever clear from the overpressure controversy that further investigation should be made by the Government, and should any corroboration of this contention be asked for it may be found in the great consensus of medical opinion shown in the correspondence on overpressure which has recently appeared in our columns. The letters we have received on this subject are certainly free from bias, representing for the most part the impressions received directly from experience, and by no means conclusions drawn from facts observed with any preconceived object of inquiry. The seven physicians who have addressed themselves directly to the question at issue, all of them on the active staffs of our hospitals for children, are of opinion that cases of cholera in its various degrees, frequent headaches, and disturbed sleep, are often to be attributed to overwork at school; and it must un-

doubtedly be inferred—though it may not be possible with the data at present at command to demonstrate conclusively the evidence of fatal or permanent effects of over-schooling—that the evils resulting therefrom are of sufficient magnitude and frequency to arrest the attention of those who administer the Education Code. It is infinitely probable that long-continued disorder of the literally impressionable nervous system of children will have a far-reaching and prejudicial effect on the ultimate development of the mind, and permanently damage the delicate structures which it is the avowed object of national education to keep in good working order.

THE theory that “education” is intended to make boys and girls “rise in the world,” does not seem to be so popular now as it was a few years ago. Thus Mr. Forster, at the Thornton Mechanics’ Institution, reminded his hearers that they were not to scorn delights, and live laborious days, in order that they might as soon as possible get out of that station of life in which they are placed, but rather that they might make the best of their powers in it.

THE question of dress still engages the attention of the thoughtful. The difficulty is, as ever, in the conflict of authority. One pundit tells us that we risk our lives if we do not wear silk next to the skin at all times; another that linen must be avoided like stone-fruit in an epidemic of cholera; a third that we should emulate the graceful if scanty vesture of the ancient Greeks; a fourth that we must walk down Regent Street habited as the Russian moujick. If some medical man were to arise and say that he could not guarantee our safety unless we were clothed from head to foot in white samite, we should not be greatly surprised. At present things have not come to this. The “leading journal,” and those marvellous persons who write letters to it, have settled that we must not wear anything but wool anywhere from the crown of our hats to the sole of our boots. The wool must not be dyed, since peril lurks in aniline and all manner of dye-stuffs. The vision of the entire British public, male and female—especially female—clothed exclusively in undyed wool, is decidedly cheerful, especially for those persons with an interest in the woollen trade.

THE excessive demands made by overloaded school programmes on the mental and physical energies of the pupils are attracting almost as much attention in France as in this country. M. Jules Simon notes with satisfaction an instalment of reform in this respect which has just received the sanction of the Minister of Public Instruction. The number of hours devoted weekly to teaching in class has been reduced from twenty-three to twenty. This is only a return to the old system, a movement in a retrograde direction; but, as M. Simon says, there are cases in which retracing one’s steps is the only progress possible.

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

A. L.—This young man has an unusually good, strong constitution, and is capable of doing a deal of hard work. He ought to be inured to hard work, too—an easy, light place would spoil him ; if not at work he will be in mischief. He is fitted for a place of trust where he would have to guide and direct others. His intellect is fair, of the practical type ; has good understanding, but not so good a memory. He needs to be careful and circumspect in what he does, and not get into the way of thinking lightly of responsibilities.

Miss G. (Edinburgh).—You are noted for two or three very strong traits of character. In the first place you have a remarkably clear intellect, and it is of the masculine type. If you had given yourself to scholarship you could have made a mark. Are an original thinker, full of ideas, and with much wit and imagination to boot. Have a fine perceptive intellect ; are quick of observation, of a good memory, and, orderly and systematic to a fault. You have very strong and very distinct moral sentiments ; they keep you “on the square,” and you have found abundant need of them. Have a strong social nature, and passions of no milk-and-water type. You will probably live into the eighties.

R. P. R. (Stockton).—You are fitted for a place of trust, where punctuality, fidelity, and industry are required ; but not for one requiring great brightness. You are a little slow in your movements, especially in those of an intellectual nature ; and you are somewhat inclined to gloom, and perhaps fretfulness. You have no great mechanical ability, and would not make your mark in a complicated trade, but what you do you are inclined to do conscientiously. If you could get into a safe retail business, it would be the best thing you could do.

D. T. (Rye).—You are the oddest man in Rye, or you bid fair to be, if you live. It would take two pages of this magazine to delineate all your salient traits, and that we cannot spare. Suffice here to say that you have talents of an uncommon order, running in the direction of oratory, acting, literature, &c. Take care you don't run wild.

“SCOTT” (Glasgow).—You would do well to give your attention to practical subjects, like arithmetic, bookkeeping, surveying, &c. You could also study music very well, and it would be well for you to learn some instrument, like the organ for instance. Elocution you are not so well adapted for, although it would do you no harm to study it if you have time. You have a great deal of working power. Your strongest moral gift is benevolence.

I. L. (Llangollen).—Of an uncommonly mild, genial disposition; very loving and affectionate, modest and retiring. Your abilities are of the practical, every-day type, fitting you for housekeeping, for companionship, and for that kind of industry that goes slowly but does much. Are kindly disposed, neighbourly in feeling, and of a high-toned, religious turn of mind.

M. P. (Gloucester).—A steady, plodding, staid, every-day and all-the-year-round sort of body. Can be counted on by the hour or the day. Is like an old eight-day clock that only needs to be wound up regularly to go well and keep good time for a lifetime, without much necessity for repair. Her qualities are such that those who know her the longest value her the most. She was not a precocious child, and she will not have developed all her best powers until she is well past the middle period of life. A good worker, though perhaps slow. Some temper smouldering underneath, but not easily roused if left alone.

J. B. (Gloucester).—This lady has some exceptionally strong and somewhat striking qualities. She possesses more than common intelligence, especially of the critical, analogical, and reflective type. She is also endowed with a good deal of ingenuity, skill in contrivance, and ability to turn her hand to many different things. Is fond of fun, too, and has rather a quick sense of humour: is consequently good company, for she talks easily and rather copiously. Has a good moral brain, is just, hopeful, and benevolent in disposition.

H. E. (Halifax).—If we answered your question as to what “the forehead, nose, chin, and general form of the face indicate,” we should fill three pages of this magazine, which you will see we cannot do. It must suffice, therefore, to say that your forehead indicates general thoughtfulness and capacity for culture; the nose, refinement rather than strength of character; the chin, an ardent love of nature, and the general form of the face a constitution that is not of the toughest, and therefore needs care. As for trade or profession, first something of an intellectual character; but taking your health, &c., into account, you should perhaps be engaged in something that takes you outdoors a good deal—as, for instance, a commercial traveller, agent, &c.

IDLENESS is the bane of body and mind, the nurse of naughtiness, the chief mother of all mischief, one of the seven deadly sins, the devil's cushion, his pillow and chief reposal. . . . An idle dog will be mangy, and how shall an idle person escape? Idleness of the mind is much worse than that of the body; wit without employment is a disease—the rust of the soul, a plague, a hell itself. As in a standing pool worms and filthy creepers increase, so do evil and corrupt thoughts in an idle person: the soul is contaminated.—*Burton.*

THE Phrenological Magazine.

DECEMBER, 1884.

PAST AND FUTURE.



HE present number of the PHRENOLOGICAL MAGAZINE completes the fifth year of its existence. Since its commencement this Magazine—the only organ for the advancement of Phrenological Science published in Great Britain, her colonies, and dependencies—has succeeded in making phrenology known in places where formerly complete ignorance of its truths prevailed. It has not succeeded in making the science accepted everywhere: it will probably have to continue its existence a good many years yet before it does that. It has, in all likelihood, not succeeded in convincing one so-called scientific man of the truth of phrenology; it would have been surprising if it had, for, in the first place, it has not tried, and, in the second, because the inquirers in any branch of investigation are the last persons to do justice to another branch. There is better material to work upon than these dryasdusts, who, with their two-foot rules, will measure you off the possibilities of nature in a trice, and with a word (of their own coinage) extinguish your theories, your speculation, your facts, your inferences, with a heigh, presto! Much as your thimble-rigger and mountebank of another sort half delude you into the belief that your hat or what not has been conjured out of existence; but it is there all the same: all that he has done being to dazzle your eyes a bit.

The other day, we are told, a peseudo-scientist assured his audience that there was no truth in phrenology—evolution was against it. Evolution! that's the scientific conjurer's word now-a-days. It is his scarecrow, his fetish, which he sets

up to cover his ignorance. We have no quarrel with the theory of evolution ; every reasonable mind must accept it as a fact ; but in evolution we do not find the solution of all the enigmas of nature, and we protest against its being set up as another serpent in the wilderness for all eyes to be turned to as the one fact of present moments to Science.

Evolution against phrenology ! Then, O, scientific brother, the days of evolution are surely numbered ; for if one of the two only must remain, phrenology will be that one. You, sir, like so many more of the scientific sept, seem to imagine phrenologists are all either charlatans or fools, who either do not want to know what the truth is, or cannot tell it when they see it. There are doubtless knaves and idiots among professing phrenologists, as among professors in other branches of learning or no-learning ; but it is bad manners to condemn a science for the shortcomings of its professors. Believe me, there are several very honest truth-loving men who profess to be phrenologists ; men who can weigh evidence, and draw an inference as well as most men, and who are therefore better able to judge as to whether there is or is not anything in phrenology than some of those scientific men, like yourself, who have never taken the slightest trouble to investigate it, but who are content to murmur, in excuse for their narrowness and indifference, some shibboleth, like your "Evolution." In the name of fair play, sir, is it fair ? Is it scientific ?

This by the way.

With the New Year we begin a new series of the PHRENOLOGICAL MAGAZINE. We shall abate nothing of our earnest advocacy of phrenology, and of a system of education based on its truths. Some new features may be introduced ; but they will all centre about, and be auxiliary to the main issue. The aim will be to make it, even more than it has been, a Magazine for personal development and culture, and an aid to parents and teachers in the training of the young.

We solicit the assistance of subscribers and friends in making the Magazine more widely known and supported.

ED. P. M.

SIR MOSES MONTEFIORE.

THIS gentleman is one of the very marked men of this century. Not because he has lived a whole century, but because he is a well rounded out man every way.

Nature has been very generous with him and he has returned the compliment. He is large in body and soul, and every way a success. His parentage was most favourable to him, giving him a most powerful constitution, a large frame, and a strong hold on life, for he stands like a Saul among his brethren, taller and more weighty than the majority.



But to make sure of the man a great brain was added as a crowning element to his physical structure, which well becomes so large a body; and that large brain, with his quality of organization, means largeness of soul, comprehensiveness of mind, and a power among men. He is in mind what he is in body, almost a giant. His brains appear to be put in the right place. He has a capital foundation for both body and mind, having all the vital functions and organs pre-eminently large and healthy, and the entire base of the brain large and active, giving him great force of character,

unconquerable energy, and strong feelings and impulses as a foundation to build on. The whole brain is well rounded out, he being stinted in nothing, and his head has its natural climax, as every head ought to have, in a predominance of Veneration, which gives a beautiful apex to his head.

His whole character and career turn mostly on two things, or conditions of his organism—his large and well filled out proportions of body and brain, and the organ of Veneration. The former help to give him large and comprehensive views of everything, and the latter, a generous soul and exalted and liberal conceptions of the Creator of the universe; such a man's God could not be a sectarian, or show favouritism.

His enormous perceptive faculties introduce him to the whole world, a great part of which he has made himself personally acquainted with, so as to understand its wants and conditions. They are as large as those of Elihu Burritt, Agassiz, or Darwin. He takes in the whole situation at once, and can judge accurately of things as they are, and his judgment of what he sees, and of circumstances and condition of things is superior to that of most men; and in his business days must have known how to operate, and to buy and sell to the best advantage.

Being connected as a partner with one of the boldest and most successful speculators in the world, he found in the prime of life that he had accumulated sufficient to live on the remainder of his life. He retired from business in order to enjoy his life, and to make sure of that enjoyment and be more happy than he was in making his fortune, he resorted to the exercise and gratification of a higher and nobler faculty—that of Benevolence; and to do the greatest good to the greatest number, he travelled many thousand miles many times over, to settle difficulties and render aid to those in distress with a liberality which gratified not only his large Benevolence but his whole moral and social nature, all of which are largely represented.

To make money and gratify his large Acquisitiveness do not appear to be his strongest desires, for he has worked hard and travelled extensively, and made many sacrifices to spend it on poor humanity without partiality. It is comparatively easy for a man with a pocket full of money to sit in his easy chair and give from his abundance, but when a man over eighty-six years of age will go from London to Jerusalem, and to St. Petersburgh to do good, it shows that he is in earnest.

His firmness is large and plays an important part in his character. He is fairly developed in the crown of his head,

which in excess gives ostentation and pride; but his moral brain is too large to allow them to have that effect: modesty would be a greater characteristic of such an organization.

His social brain is large, and being fully developed back of the ears, he makes strong and firm friendships, and is social and companionable. His large Language, as seen in the full and even projecting eyes, makes him a good conversationalist, and disposed to entertain company; and he always has a large fund of information and a capital memory to aid him.

According to organization he should be characterised for the following leading powers:—Mental and physical energy and force of character, very great perceptive powers, giving a desire to travel, and ability to acquire knowledge, and to judge correctly of things and their qualities and uses. Great firmness, steadiness, and tenacity of purpose; and, as a cap-sheaf of the whole, he has a predominance of the moral and religious brain which has had a controlling influence over his entire life.

L. N. F.

BRAIN AND MIND.*

THE subject before us is one of considerable importance, because it interests us in ourselves. We may know much about many things, but if we are ignorant of that which appertains to ourselves we cannot advance ourselves as people who know the powers they possess can do. We cannot do the work unless we know the tools, and it is the object of this lecture to throw as much light as possible on Phrenology and Physiology, so that you may know how to begin your course of culture and self-improvement.

Man exists on the earth by the combination of forces that are necessary for existence and yet are antagonistic to each other, the greatest antagonism being between the body we can see and the mind we cannot see. These forces are contrary. The mind is superior, and must have a house to live in and tools to work with to accomplish its various designs. The home of the mind is in the brain, and that is carefully protected by the skull, which is made of parts so dovetailed together as to be very strong and protecting. The mind uses the brain as the medium through which it exercises itself. The more elliptical the shape of the skull—the more perfect it is and the more strongly it is made, and

* A Lecture delivered at Ilkley, by Mr. L. N. Fowler.

such a shape indicates a more perfect consciousness and more harmony in mental action. When you see a skull imperfectly formed you can infer there is an imperfect state of mind, but if the head is evenly developed there is more harmony. Everything depends upon heads. If a man has no head his hands and feet are of little use; but if a man has a good head, he can, and does, make use of other people's hands and feet. There are a great variety of heads, and if people had eyes to see they would see character going along with the shape of the head, as there is harmony between the size, shape, and quality of heads and the actions of men as seen in everyday life. Thus you have the high head and low head, the large head and small head, the broad head and narrow head, the smooth head and rough head, the long head and short head, the hard head and soft head, the round head and square head, the thick head and thin head, the hot head and cool head, the old head and young head, the wise head and foolish head, the full head and empty head, the crazy head and the lazy head, the sound head and the fickle head, the sleepy head and the wideawake head, the dead head and the paying head, the bald head and the "chignon" head, the courageous head and the coward head, the artist head and the bungler head, the useful head and the useless head, the honest head and the rogue's head, the savage head and the civilised head, the loving head and the hating head, and the good head and the bad head. You have only to get your eyes centred to see what a diversity there is. Men are dependent on the Almighty creating power for their mental powers. The brain is dependent on the mind for its existence, and the shape of the brain is determined by the different faculties; while the body is dependent on the brain for its existence as the agent of the mind. The quality of the organisation is dependent on the brain, and there is harmony between the shape of the brain and the natural character. Phrenology explains this. There is nothing nearer the Almighty than the mind, when it is directed properly and acted properly. The more you study botany and the animal world the more you see that shape and type go together all through nature; and that shape and quality tell the whole story, and reveal the various powers and variety of characters among men.

The brain is divided into the cerebrum or larger upper brain, and the cerebellum or smaller lower brain. It is also divided into two hemispheres, the right and the left, and all are joined at the *medulla oblongata*. Men have two minds, a mind on the right side and a mind on the left side. Why, we do not know, but the Almighty does. The two give more

perfection. One side of the head pertains to masculine power, the other to feminine. There are four ventricles in the centre of the brain performing important functions, and if a man dies through drinking heavily these ventricles can be set on fire with the spirit they contain. Vessels are valuable in proportion to the value of what they hold, and heads being vessels to hold are valuable in proportion as they hold that which is valuable. There is a vast difference in the value of different brains, and it is a most difficult thing to study. You cannot lift up a man's skull and look in on the motions of his brain, because every man has a right to his own skull ; and I doubt whether you have a right to do it to a dog or a cat. This being so, you have to take the outside shape of the skull and judge by manifestations.

There is nothing more complicated and difficult to understand than the brain and its functions, and probably much more is to be learned about the brain than is at present known. Some people object that if they could see the brain they could not see the mind. Well, we know that ; but in the other world we may perhaps be sharp-sighted enough to do so.

There are three lobes of the brain ; the frontal, middle, and occipital. The brain operates on the skull, and by observing the shape of the latter we can see what centres project. Thus, the moral brain is seen to be wanting in a little monkey ; but the chimpanzee loves its babies, and feeds and nurses them as well or better than many a human mother. The law in Nature, all other forces being proportionate, is that size gives power, and the inference is that there is truth in phrenology. The brain is composed of two substances : the grey matter, which is in the centre ; and the white, which is external. It is supposed by some that the centre brain bears a special relation to the different functions of the body, by keeping them in healthy working order. The external brain is the extension of nervous fibres from the centre brain, which for the sake of convenience are folded into convolutions, and are similar on each side ; and these convolutions are thought to be nervous centres or organs for different primary powers or faculties of the mind, which give the ability to do the work of life and study the laws of Nature and of God. If it is a fact that the soul created the brain, and that through the brain the body was formed, and that the mind through the brain superintends every part and condition of the body, then we should naturally infer that certain portions of the grey substance look after the repairs of the system. It is absurd to think that the soul is nothing. It is believed by many

that the soul is composed of an infinite number of separate spiritual forces, and that the brain is composed of an infinite number of vesicles or glands which are separate or different, the same as the spirit forces are. There is nothing unreasonable in this. The stars are different in their courses and yet are harmonious, and the spiritual forces and the vesicles of the brain may act together with as much precision as the stars.

There are three storeys in the brain. Each storey has its own work to do, and the greatest power of each belongs to different periods of life, the lower part being most active in childhood, the middle portion in middle life, and the higher portion when man grows older and begins to think of higher things and to prepare himself for another world. The power of the brain as the organ of the mind is determined by its healthy condition, its weight, culture, and the number and depth of its convolutions, rather than by its size. Still, some black women, like the one shown (profile produced), can only be taught enough to enable them to curl their hair, and a man who has only one storey cannot very well go upstairs. Lucretia Mott, whose portrait I have here, was a woman of a very different facial outline, and has done an immense amount of good in America. Another example is that of a woman with little or no forehead, and she distinguished herself by choking her husband because his health was failing and he was likely to become a burden to her, murdering a pedlar, drowning her two daughters for fear they should disclose the crime, and getting rid of her son in order to get at his money. You must not, however, judge a man altogether by the size of his head. A watch can keep as good time as a town clock; a pistol can be shot as straight at the mark as a cannon, although it would not carry to such a long distance; and the little wheel of a carriage gets to its journey's end as soon as the larger one. So a man with a small head, if perfectly proportioned, is quite as clever as a man with a larger one. A man with a small brain is quick, and will answer a question at once, but a man with a larger requires time to consider.

We could do more and better work with our brains if we took care of them. No organ of the body is more valuable than the brain, yet it is very liable to be trifled with and neglected. Where do we get an education for the brain, and where are we instructed how to keep it in order? Many of the principles of nature centre in man, and the brain is the organ that takes cognizance of and apply them. There is a great power in the direction of cultivation. The difference between a cultivated race-horse and a cultivated draft-horse

is easily seen, yet both need mind and strength. The cultivated perceptive faculties of a Darwin or Agassiz collect much more important information than those of persons possessing equally large powers without cultivation. The same faculties can be cultivated in different ways. Cultivated sailors and cultivated clerks show a great contrast, and professional gymnasts and professional editors are very different. The cultivation of the brain or the neglect of cultivation is seen as distinctly as the cultivation of the body. A trained prize-fighter can use his powers to a much better advantage in that direction than one in whom they are equally large but not cultivated. The same faculty can be cultivated and used in different ways, as an artist, architect, chess player, billiard player, blacksmith, boxer, marksman or phrenologist. To cultivate the mind or the muscle only makes a great difference in character. In going from the lowest stages of barbarism to the highest stage of Christianised civilisation there is a gradual ascent in the use of the brain from the base upwards. The barbarian necessarily lives in the use of the base of his brain, but not the coronal brain, while the highest stage of Christianised civilisation requires not only the use of the base of the brain, but of the frontal and coronal also.

All the work of life is at first concocted in the upper storey of the body, whether good or bad, intellectual or selfish ; all thinking or tinkering, loving or hating, getting or giving, fearing and hoping, scheming and working, all flirting and coquetting, looking and listening, are carried on in that little busy workshop, which is all life, and the busiest little beehive in the world. It is busy day and night, and from birth until death. All the mischief done in the world has been conjured up in that little box. All the good designs of mankind have their origin in some corner of the human brain. When certain parts of the brain fail to work, the faculties located in those parts do not manifest themselves. Some parts of the brain cease to act before others, and the same is true of the mind.

The mind does the most, best, and most valuable work in proportion to the healthy, best cultivated, and most perfectly balanced brain. All brains are brains, whether in man or beast, but there is as much difference between one brain and another as there is between one man and another, or between man and beast. Talk about a high intellectual development, look at old Dr. Channing ; then turn from him to another man who called himself a preacher and said he had converted 18,000 people, but who turned crazy and was confined in a mad-house. Then look at Tyndall, the translator of the New Testament into the English tongue.

Where there is the most brain, that part of the mind located there is the strongest, and the character will be affected by it as well as the conduct and influence. Thus the basilar brain gives energy; the occipital, affection; the coronal, sentiment; the frontal, intellect; the crown, ambition; and the temple artistic faculty. Some so trifle with their brains by debilitating habits that they become almost useless, others are exhausted by over-work; some are not used enough to keep them wide awake, and others are used too much to keep them wide awake. Some are smothered with snuff, others muddled with beer; some are soaked in alcohol, others smoked by tobacco, and still others by opium. Some appear to have a screw loose, for they rattle away at a great rate without doing any good. Other brains are like type thrown into "pie," a confused mass. Their minds are in a muddle, and their thoughts and feelings come in a jumble. Some brains are so hard and stiff that it is difficult to make an impression or create an interest, and the minister who preaches to them may go on, Sunday after Sunday, for twenty years without seeing any difference in them. Others are so soft that impressions are not lasting; they go into a religious meeting and commence singing and praying, but after being fifteen minutes outside they forget all about it. Some brains are so poorly cultivated that they barely earn a living. Some are so partially cultivated that they are quite out of balance, some parts being active and available while other parts appear to be of little or no use, which is one cause of the many inconsistencies manifested in life.

Brains can be paralysed as a whole or in part, so that there may be a complete suspension of mental manifestation or only a partial one. One half of the brain and one side of the body may be paralysed and not the other; so also one half of the brain may be more active and influential than the other half, the same as one eye or one ear being better than the other. The left side of the brain has a monopolising power; it is occupied by thought, and the result is wisdom. An injury on the organ of Language on the left side stops speech. The right side of the brain has a pacifying influence, and gives off love, and so forth. It belongs to women to have more of an emotional nature; to man more of a thinking nature.

Betwixt, between, and connected with our coming into and going through this world, many brains have been muddled and minds stunted, and the majority of the race have failed to come up to the full stature of a man. It would no doubt be more acceptable to the designer of the human organism if man more nearly reflected the image of his Creator. Very

much that is called sin and violation of moral and human law, and for which men are put in prison and hung, is the result of diseased brains, and the time is not far distant when disease, defects, and deformity will be considered crimes, and the results of violated law. Drunkenness, insanity, debility, and delirium tremens are brought on by evil habits. Disease is frequently the result of crime, and crime the result of disease. Brains may be overtaxed and prematurely exhausted, just the same as the body can be. Softening of the brain comes from too continuous and severe use of it ; derangement of the brain from its unequal action, which destroys the balance of power. Delirium tremens is the result of an over excited state of the whole mind, brain, and nervous system. Madness, unreasonable enthusiasm, or uncontrollable passions of any kind arise through one part of the brain and mind gaining the ascendancy over the remainder.

Much of the education and labour of the present day tends to throw the mind and body out of balance ; and many of the habits of the age go a long way towards diseasing, deranging, and stunting the action of the mind. Children, instead of going to school to gain health go to school and lose it .For a vigorous, healthy manifestation of the mind it is just as necessary that there shall be a good chemical condition of the brain, as it is necessary that the chemical condition of the stomach shall be perfect enough to properly digest food.

Many people get their brains turned by too much power, praise, and fashion. Some brains cannot bear prosperity ; others cannot bear adversity, and their owners blow them out. Some brains are very enduring, others are easily exhausted. Some are too full of life, and others have not half enough. Some brains differ very much from others in quality and quantity, in activity and in susceptibility. Some are up to fever heat, others down to zero. Some are full of life, and generate thought and feeling ; others are dull, stupid, and half dead. Man's life is of value in proportion to the size, quality, and use of his brain. Being the organ of the mind, its condition affects the mind, and the kind of mind we have indicates the character, and the better the character the more perfect the manhood and the nearer the approach to the Divine mind. Let us learn to use the brain and mind to the best advantage possible, and the result will be good both for us and for posterity.

DOES not Mr. Bryant say that truth gets well if she is run over by a locomotive, while error dies of lockjaw if she scratches her finger?—*O. W. Holmes.*

THE MAGNETIC ORGANIZATION OF MAN.

BY SAMUEL EADON, M.A., M.D., PH.D., F.S.A. (Scot.), &c.

WE have no fault to find with the industry and learning which have been displayed in all ages in unfolding the anatomy and physiology of the animal organization, from Galen, the first methodiser of anatomical notions, to Vesalius, the great restorer and founder of the science. We would do all honour—fling our veneration on every man who has essayed to trace the footprints of Deity on organizations which the Psalmist declared to be “fearfully and wonderfully made;” on Harvey and Ascelius, the one for his discovery of the circulation of the blood, the other, for that of the lacteals; on Rudbeck and Bartholin, for our knowledge of the functions of the lymphatics; on Malpighi and Cheselden; on the Hunters, the Bells, and the Monroes; on Gall, Spurzheim, Combe, and other distinguished men of our day. By the varied researches of such thinkers, many important discoveries have been brought to light; such as, that the brain is the organ of the mind, and the chief generator of nervo-vital power; that the body lives upon the blood; that the skin, with its twenty-eight miles of tubular drainage, is the greatest depletory organ, and Nature’s grand outlet for the exit of all kinds of morbid matters; that every organic being originates in a cell, and that the highest act of vitality is the production of another cell; that fibre is merely a collocation of cells in a linear direction, and that the breaking down of the tangential walls changes fibre into tube; that celia, the caudal prolongation of epithelial cells, is the simplest form of cell-growth; that the desiccation of cells in a membranous expansion, causes a surface like the epidermis; that plasma, or blastema, is the production of cell agency; that the white lines running across the abdomen are the vestiges of the ribs of serpents; that the oscoccyx is merely a condensed tail; that the bones of the cranium are merely modified vertebræ; that the cerebrum is the homologue of the lungs; that the cerebellum is the great centre of nervo-motive life, and the heart of organic life; that the lungs are, as it were, the brains of the thorax, and the liver, the lungs of the abdomen; and, that every organ of the body is represented by the brain—nay, is the brain, in a modified form, *i.e.*, the prototype, of which the brain is the glorious archetype.

Now, all these are important kinds of knowledge, and

destined, clearly enough, to pave the way to greater and lesser forms of generalization. There is, besides the above, in many later discoveries, a gradual progress from the great and the coarse, to the minute and the delicate. But, after all, these are only the ropes, the levers, the wheels, and the pulleys of the system—the *motive power* (that which keeps them in good working condition)—must be sought for elsewhere. The spiritual, the dynamic, and the invisible powers which use and direct these animal fabrics for pre-ordained purposes, occupy a domain into which material anatomy and physiology have not yet dared to tread. Into this region it is the object of this paper to direct attention, as it is to the magnetic, or spiritual organization of man, we must look for any additional improvements in the healing art, seeing that herein resides, *and here alone*, the grand motive power whereby the material organs perform their normal or abnormal functions, and on which the dynamic aromas of highly potentized matter have an innate aptitude to act.

A discovery is always great in virtue of the amount of good likely to accrue from it. We aver that the law of *similia similibus*, discovered by Hahnemann, will prove second to none in its bearings on human happiness; and, when a knowledge of the magnetic organization of man forms a part of medical studies, and takes its place as the first of all the sciences, because the development of the laws of the highest created organized matter, MAN—the method pointed out by the illustrious Hahnemann, the modern sage of Cos, by which the spirit-power of matter is evoked from the envelope in which it lies embedded—will be considered on a par with the discovery of the law itself, and as inseparable from its practical application, as that of the electric telegraph from the railway system. Without the discovery of dynamizing the medicines, and evoking the spirit of the drug, the law of *similia* would be shorn of half its glory and its power. It would be mass acting on mass—crude matter, with all its power locked up by cohesive attraction, acting feebly on living, organized forms. The material man might be affected; but the immaterial (the spiritual), never! The size of the particles would be incapable of interpenetrating the finer tissues of the body, while the millions of spirit-atmospheres surrounding the minutest microscopic atoms, being locked up, would remain powerless, and utterly incapable of affecting the magnetic aura, as it radiates in beautiful streams from central and circumferential poles, both great and small. The discovery of the law of Likes, the minuteness of the homœopathic dose, and the evoking of a semi-vital power by friction

and succussion in preparing the drugs, will, in the end, be amongst the brightest stars in the therapeutic heavens.

There is a great battle going on in the world, and the issue will be fraught with great good or sore evil. The battle-field is the bodies of mankind ; the combatants, the allopaths, and the homœopaths. The former maintain, that man has a physical body alone, and when out of order, material means only can put it right ; hence the reason of the use of the medical tilt-hammers which have been flattening poor human nature from time immemorial to the present day ; the latter, admits that man has a physical body, and would, ever and anon, throw about it all sorts of hygienic modes of purification and tonification ; but, at the same time, they maintain, that the material organized frame is merely a development of the spiritual body, superposed, as it were, on the great polar centres of his magnetic organization, in which alone reside life-power and motive-influence ; and that it is on this spiritual magnetic and invisible nature medicines act, according to a discovered, but Divinely-instituted law, whenever organized matter is brought from a state of disease to that of health. The battle-cry is dynamic therapeutics, based on magnetic or spiritual anatomy, physiology, and vito-chemistry, versus material anatomy, physiology, and the chemistry of dead atoms. Having to deal with palpable forms of diseased matter, allopaths think large and massive doses of physic would be more likely to act safely, quickly, and curatively. They place matter *diseased*, against matter given, *for* disease, in equal and opposite directions ; which process, by translating the language of physics into that of physic, means, simply, a system of counter-irritation, internal and external. This is, at the best, but taking a sort of half view of human nature. A higher authority has said, "But there is a spirit in man ;" in another place, "Man has a natural body and a spiritual body ;" and the advantage which homœopathy claims over every other system of recuperative agency is in taking this two-fold view of human nature, and in adapting the imponderabilia of the medicaments made use of to the magnetic nature of man, according to a law of God, which the genius of Hahnemann was first privileged, if not to discover, to develop fully, in all its wide and ample bearings.

The therapeutics of homœopathy embrace the anatomy, physiology, pathology, and chemistry of the old school, because these have all certain relationships to the material body of man, and its aptitudes to disorganization and functional derangement ; but, in addition to this kind of knowledge, the new medical science advances onwards, and passes from

the material to the spiritual man—from the visible to the invisible—from that where apparent power resides, to that invisible something, in which, through which, and by which, all absolute and positive power in-dwells. The anatomy of homœopathy in its loftiest forms of conception is no other than the anatomy of the spiritual and magnetic body ; its physiology, the normal laws existing between the spiritual and material organizations ; its chemistry, the chemistry of life—the effects which the spirit produces on the material organism—a vital chemistry, infinitely more refined and powerful than the chemistry of dead atoms ; and consequently the therapeutics of homœopathy must, of necessity, consist in the administration of infinitesimal forms of matter, embodying a subversive force, given, according to a law having Divinity stamped upon it, viz., "*similia similibus curantur*," or Nature's law of cure.

Upon reflection, there is nothing so very marvellous in these views. The whole domain of the physical sciences shows that the mightiest, palpable, and most visible effects arise from invisible, dynamic, and impalpable causes. The greatest active agents in nature are imperceptible entities—as light, heat, magnetism, and electricity ; and yet these have apparently neither colour, savour, odour, volume, dimension, determinate shape, nor definite proportion, nor any of the other physical properties of matter ; yet they pervade and interpenetrate all forms of visible matter, and are found enwrapped, in wondrous conditions, in the three great kingdoms of Nature—animal, vegetable, and mineral. Strange would it be, if invisible, dynamic force should rule and regulate the inanimate world, and that this should not be the case, in the animate. But it is not so. Every morbid effect is the product of some invisible cause, and the material form in which it presents itself is merely the gross covering which conceals it from our vision. External forces act on our organs whenever they meet internal forces, with which they can combine. In all cases it is force, invisible force, which meets, combats, repels, and neutralizes each other, or which mutually regulate one another. Health, disease, and death—our very existence—are the results of the action of forces.

In every department of Nature there is an entire system of force, animate and inanimate, visible and invisible ; and, in man, we have the supreme type of all force, the *soul*—the glorious invisible spirit ; the Divinity within us—which is ever acting through a dynamic, magnetic, or spiritual organization on our physical material body. Amongst all the forces of Nature this is "the force," *par excellence*. "The true springs

of our organization," says Buffon, "are not those muscles, those veins, those arteries, which are described with such exactness and care. There exist in organized bodies internal forces which do not follow the gross mechanical laws we imagine, and to which we would reduce everything." The Sir Isaac Newton, of France—the illustrious Laplace—says: "Beyond the limits of this visible anatomy commences another anatomy whose phenomena we cannot perceive; beyond the limits of this external physiology of forces, of action, and of motion, exists another invisible physiology, whose principles, effects, and laws it is of the greatest importance to know;" and beyond the material and crude therapeutics of the old school of physic, there is an infinitesimal and imponderable kind of therapeutics far more important to know, and far more useful to practise, for the good of our fellow-men. But how is this invisible anatomy to be known, since it lies within the domain of the invisibles? In the same way as a knowledge of the unseen forces of inanimate nature has been acquired, viz., by careful observation and rigid induction, but far otherwise, and after a very different fashion from that which the Tyndallian School of Physics would indicate or attempt to pursue.

We must take a bound from the domain of thingalism into that of spiritualism—cause the "eye of spirit" to look at objects without using the "eye of body," and act for a time, though still enchained to the corporeal frame-work, as if the soul and its marvellous spiritual organization were entirely free of matter, and saw, observed, and examined everything within its range, with the heightened powers of spiritual vision. All cannot "shuffle off," for a time, "this mortal coil," and view objects with the spirit eye; neither is it needful. But some can; and if we could but have a Newton-spirit in this department of spirit-physics, one would be enough to record faithfully what was seen. Well, this has been done. Parties highly sensitive, and nervously susceptible to the action of all outward dynamic and unseen influences, can be, and have been, brought into such a state as to be standing, as it were, on an isthmus between the worlds of matter and of spirit. We give the records of the spiritual vision of one out of many. The subject was a lady; and whilst she was in this etherealized or clairvoyant condition, Dr. Harwood, the Rev. Lay-Roy Sunderland, and Mr. Fowler, of New York, obtained from her (and afterwards from others brought into the same condition) the following knowledge relative to the magnetic nature of man, as she beheld it with her spiritual eyes. She described the brain as having two poles in each of the organs

of Causality; two in the cerebellum, and a large lighted-up pole in the centre of the brain, with lines of radiations intersecting each other. Besides these cerebral and circumferential poles, each phrenological organ had a small pole, which emitted radiations to the great central pole-light; in front of which was seen the cerebral convolutions, and behind, the pineal gland, once thought to be the palace of the soul. These poles glow with light, the greatest intensity being in the central pole, from which, and to which, the forces all radiate. Each lung had its pole; and there was one in each auricle and ventricle of the heart; two poles in the stomach, one on the right side, the other on the left. Under the diaphragm, not far from the cœliac axis, forming a gangliform circle, from which branches pass off in all directions, like rays from a centre, the great solar plexus, with poles, shining like splendid lit-up silver orbs. There were also two poles in the liver; two in the pancreas; two in the spleen; and one in each kidney—the kidneys being connected by magnetic radiations—the left kidney being partially influenced by the spleen with bright chains of magnetic light. There were no radiations existing between the kidneys and the liver, except by the smaller lines of radiation common to all the organs. The uterus had one pole; the space below, one; and the ovaries, one each. The tongue (the "unruly member!") had many small bright poles along its edges, with a large one in the centre, from which bright lines emanated, looking like chains of shining gold. At the entrance of the larynx and pharynx, magnetic poles were seen; also, one at the cardiac; and another, at the pyloric orifices; small ones also, at each convolution of the bowels, with a large one, at the ileo-cœcal valve. The magnetic poles between the uterus and mammae were specially connected by bright lines of radiation—the lines crossing each other, *i.e.*, the right ovary influencing the left breast, and the left ovary the right breast. From the spinal cord were seen to issue posterior and anterior sets of nerves, bright and radiant; the former having shining ganglions thereon, the latter none; thus proving that sensibility resides in the serous and not in the mucous coats, except by reflex action.

"Our existence commences," says this clairvoyant lady, "on the sternum or breast-bone; one cell-germ uniting with another cell-germ, and these producing a third, and so on. Poles shot out where the work commenced; organs were formed around them; other poles shot out; other organs were formed, and, in this way, the body expanded till the human microcosm was completed. The brain was last formed; the cineritious, the thinking part, after the medul-

lary; the part for cerebral circulation, *i.e.*, the phrenological organs, the instruments with which the human spirit manifests itself in this life, were formed the last of all.

"The law which determines the sexes depended upon the magnetic force of the parties concerned. If the weaker magnetism was in the male, the product was a female, and *vice versa*; that the existence of twins began at the same moment, the products being in proportion to the power of the magnetic influence excited by each. The joints had two poles, one to extend, the other to flex the limbs. The nerves which divided and subdivided in infinite ramification from the thirty-two pair of nerves of the spinal cord were of a lighter colour, but no poles were seen in these evanescent nerve-threads. The great sympathetic system of nervous ganglia, extending on each side of the vertebral column from the head to the coccyx was all lighted up in intimate connection with all the other organs of the body, by means of infinitely minute nerve-ramifications. In the parotid gland was seen a pole, and also a string of round bodies below (ganglia of lymphatic glands), with a pole in each. The thyroid, with its two lobes, one on each side; the trachea, the sub-maxillary gland, in the posterior triangle of the neck, had each a pole. The brain was observed to be in constant motion and synchronous with the pulsations of the heart. In the process of thinking, the lines of radiation from the central pole of the brain to the exterior convolutions, always became brighter, and the nerves, in any part of the body, when put in motion, looked of a lighter colour. The eyes had each a pole, situated in the crystalline lens; and the poles of the stomach, through which a clairvoyant looks, as people do with their eyes in the normal condition of the body, were situated in a part of the stomach, about two inches from the medium line, and glowed with radiant flame. The sense of feeling was not in the skin, flesh, or bones, but, when the finger was pinched, the sensation was felt along the nerves, and terminated in the great central cerebral pole, proving that all sensation is in the magnetic forces in connection with the in-dwelling soul, and that the nerves are merely the strands by which these forces are transmitted. In the *processus vermicularis* there were observed two poles, and these were the organs of motion. In them resided the motive power of organic life."

Now, from natural somnambulists and high-wrought sensitives, and also from many others who have been artificially thrown into the clairvoyant state, the same results have been recorded again and again, by scientific men in different parts of the

world. Professor Gibbs, of Columbia, the Fowlers (the greatest practical phrenologists in the world), distinguished physicians, and men accustomed to follow the severest inductions and deductions of science, have tested these experiments, and now view the magnetic structure of man, as developed by clairvoyant media, as one of the greatest discoveries of modern times. To sum up this dynamism of man, this magnetic and transcendently refined interior organization, upon which the grand Being within first acts, ere its effects are visible in the objective and material framework of humanity, it is evident, that life is in the soul, and that it is transmitted from within, to the magnetic, and afterwards, to the corporeal man, for ordinary life purposes ; that sensations are really magnetic forces in motion ; and that, in the act of thinking, these forces move from the great pole in the centre of the brain, to the outward convolutions, or phrenological organs, and then radiate again from these to the centre. We think, by the action of the magnetic forces permeating and radiating the nerve-strands and cineritious molecules of the brain, and the Human Will being the engineer which determines all our actions, seems very properly to be situated in the great luminous pole in the centre of the brain. The following, for the purpose of reference, is a tabular form of the magnetic poles of the human body :—

	Poles.		Poles.
Brain	Cardiac ...
Eyes	Pyloric ...
Ears	Ileo-Cœcal ...
Lungs	Anus ...
Heart	Each convolution of the In-
Stomach	testines ...
Liver	Ganglions of vegetative life in
Spleen	connection with the great
Pancreas	sympathetic nerve, each ...
Kidneys	The lymphatic glands, in-
Bladder	cluding the mesentery, each
Uterus	I
Ovaries	Each hand ...
Vagina	The sole of each foot ...
Mammæ	The phrenological organs of
Solar Plexus	the brain, each ...
Mesentery	The ganglions of phrenolo-
Orifices, each	gical life, or those of the
Tongue, with many small ones	brain and cerebellum with
	I		the olivary bodies and
Larynx	ganglions of the spinal
Pharynx	nerves, each ...
	I		I

No magnetic poles have been discovered in the mucous glands of the mucous membranes, but many nerves are seen to terminate from the serous surfaces in these membranes and in the skin ; showing that there can be no pain in the mucous surfaces, but by sympathy or reflex action.

What inference, then, can be drawn from this dynamic anatomy and physiology, but that invisible forces are at the bottom of all visible phenomena, whether in the inorganic, organic, or animal kingdoms ; and that, if we can only modify normally these invisible, dynamic, and magnetic forces, we modify and change the condition of the outward phenomena of which they are the cause. To dynamic, invisible agents, then, we owe our earliest breath, and our latest sigh. Life, health, disease, and death itself, are the result of unseen, but ceaseless agencies. Force creates, produces, preserves, and finally reduces the visible into the invisible. The visible is comparatively impotent ; it is the invisible that is all powerful. The visible, the tangible, is an *effect*, merely ; it is the *invisible* which is the mighty and omnipotent cause. A diseased organism is, then, clearly, the product of invisible and dynamic causes. To restore it to a healthy condition we must bring into play forces that have a greater affinity for the disturbed magnetic forces of the body than the morbid force has, which is the real cause of the diseased condition. If this is done—and it can be—the morbid force which produced the disease will be powerless to injure, and will soon quietly leave the scene of action. In order to cure, bring forces face to face, and let them act without any intervening material agent. To expect to influence the visible morbid animalism without taking into account the forces which produced such a condition, would be like expecting to improve a tree by tampering with the flowers, to the neglect of the forces residing in the soil and roots.

Do as we may, the broad fact stares us in the face, that all action, either for good or evil, on the living body, is entirely invisible and dynamic ; and the only way to act on these forces, is either to bring the imponderable, such as light, heat, electricity, &c., to bear directly upon them, or else to bring the corresponding invisible agent, enshrined in some material envelope, that has the power to act according to a natural therapeutical law, on the forces which have produced the morbid condition called disease. Now, homœopathy does this. It applies similar force to similar force by means of the smallest material intervening agency possible ; and this mode of treatment—the highest science in every phase of physics—in organ tone, proclaims it as the only rational and natural mode of

cure. To apply force, even if similar, through a ponderous material agency, is the height of folly. The mass of the material element swamps the dynamic life of the drug. It is getting a nine-pounder to kill a monad. Homœopathy, by bringing into action a force applied according to a God-found-out law, and conveyed in the smallest attenuated material possible, against the morbific, invisible dynamic force, which produced, perhaps, a frightfully morbid condition in the system, is the only system of therapeutics, around which science, in its wonderful and constant developments, will be able to throw the ægis of its sanction and approval. Homœopathy, and the imponderabilia, have alone the matchless power of restoring, to a state of health, the magnetic powers of the organism of man, when thrown into dynamic disturbance by external morbific agencies, powerful, though unseen, but which, nevertheless, are really the causes of all "the ills that flesh is heir to."

In conclusion, man is evidently an electric machine. The brain is the great battery; the various ganglia, the little batteries for the generation of nervo-vital force; and the nerves, the strands for its transmission from the brain and minor poles to the extremities. These nerve-currents are subject to laws. In health, they are direct; in disease, indirect. The direct, or normal current, conveys the electric influence from within, downwards; the indirect, or abnormal current, from without, upwards. In health the polarities are quiescent, the currents, direct, and there is freedom from pain; in disease, the polarities are indirect, the currents, reversed, and there is pain and all forms of disturbance. The nervous system is the engine which carries the train, with its wondrous freight, along the line of life. The motive power is the electric force, and without it, all would soon lie in a state of repose. If disturbed in its normal action, effects, attended with pain, manifest themselves at once; and the greater the disturbance, the more painful, or marked the result. In a perfectly normal circulation of the nervous fluid, lies the secret of health; in its disturbance, lay the foundations of all manner of diseases. Morbific, or disease-producing forces, are constantly around us. The body is more liable at one time than at another to be acted upon by them. Sometimes the force is very intense in its action, and requires the body, with all its polarities and currents, to be in a perfectly normal condition; if not, or if only a slight perturbation exist in the system, manifestations of an altered condition will soon be apparent. If there have been violations of the organic laws for any length of time,—the body being necessarily rendered more susceptible to the

action of noxious influences,—an intensely active morbific force may subvert, and often does, as, with lightning speed, the whole bodily organism, and hurry a man "*in articulo mortis*" at one fell swoop, as in the case of Asiatic cholera. Owing to a reversal of the various polar currents, the whole system becomes changed in action, and disease, in some form or other, is the result.

If minor generalizations in medicines seem to be included in this more comprehensive generalization,—*the restoration of the harmonious action of the nervo-vital forces*,—what is to be done? If the object of all kinds of treatment is a restoration of reversed, indirect, polar currents, to their direct or natural action, both in respect of the greater and the lesser batteries of the nervous system, that kind of treatment will be the best which partakes of the character of the "imponderabilia," and which, acting on a natural law, has been found, in millions of cases, and in all climes, to possess the power of restoring the reversed, electric currents to their direct, and naturally on-flowing, and normal conditions, and which, in due time, without the armamentarium of a ponderous polypharmacy, brings back, by the gentlest processes, the diseased organism to its usual, healthy action.

UNSEEN FORCES.

IT is a curious fact that all the most subtle and the strongest forces in nature are those which are unseen, and which consist of matter reduced to such great tenuity that they are imperceptible, save and except by their effects.

The grosser and more mechanical forces, such as weight, water, wind, &c., are in reality not the true forces, but rather the results of the subtler and unseen forces existing in the universe. Weight, for instance, is really attraction of gravitation. Water, though acting also by its weight, has, besides, an elastic or out-pressing force, whose causes have yet to be determined. Thus, then, water acts not merely by dead weight, like a pig of lead or iron, but also by its expansive force. Wind also acts by its weight; but its force of elasticity, or outward pressure, approximate it rather to the subtler unseen forces, for it is invisible, though we are able to appreciate it by one of our senses, that of hearing. The whirl and irresistible force of a cyclone are something greatly beyond the natural steady pressure of the air, and can only be produced by some unseen force.

Thus much, just to exemplify those grosser forces that are daily in action, and which have been made use of by mankind from very early times, under the impression that they were forces in themselves, whereas in reality they are only the results of forces unseen.

Let us now turn our attention from these outward and visible forces, to those more subtle and unseen ones which have mostly become known, so as to be made use of, in more modern times, though they were not altogether unknown to the ancients. These subtle forces seem to lie hidden in matter, and to be developed only by the action of one substance on another, or by the attractions and repulsions resulting from their contact. Heat, under the name of fire, used to be considered a pure and elementary substance, a sort of original cause independent of extraneous matter; under this idea it often became an object of worship to some ancient peoples. We know now that it is not a primitive element, for we can, and do, make heat by very gross processes, whether by friction, by combustion of coal, wood, or oil, or by the sun's rays acting on matter. Light, also, can be produced by all sorts of combustible and gross materials, as well as by friction and concussion; not to say that the rays of light, being divisible, can no longer be considered as an elementary fluid, or a single cause, but rather only as a result. Electricity can be obtained by friction, concussion, &c., gross or material means; therefore it is but a result. The galvanic current is produced by chemical agency, an acid acting on two metals; again a result. Chemical forces are also brought about and made use of by bringing together very gross substances, of whose contact they are again only the results. Magnetism is still more subtle, yet a blow or two on a piece of steel will render it magnetic; another result from a very gross application.

These are a few of the forces with which we are now acquainted, and it is possible that more will be discovered, but in every case, it will be observed, the force is brought about by the action of *two* substances, the result being a disengagement of power more or less strong. It is a peculiarity of the unseen forces, that they are no forces at all until the two elements of which they are composed are brought together. Place, for example, some soda in a glass with a little water, and some tartaric acid in another; they are both quiescent, but mix them together and they begin immediately to bubble up and throw off gas with considerable force. To show how much these invisible forces exceed in their effects the more material ones, we will make a few comparisons.

Look for a moment at the subtle force which results from the decomposition of a few plates of zinc and copper by an acid, and compare it with that of an elephant, the strongest of quadrupeds, or, again, with the speed of a horse, the swiftest. By the electric or galvanic force we can speak to our friends in America in a few minutes. How many days would it take the swiftest horse to get thither at his full speed? Even at fifty miles per diem he would take sixty days to run the 3000 miles. Again, a few pounds of dynamite, made of substances weighing one-hundredth part of the elephant, would blow him to pieces.

But we will now look at these invisible forces in another light, not as producing the mighty effects which have just been pointed out, but as entering into the composition of matter, and giving it that *initial* force which enables all living organised beings to perform their respective functions. This *initial* force we hold to be oxygen, which acts not only on living tissues, but also on stones, metals, and rocks; in other words, on all matter. Without it there could be no life, either vegetable or animal; no combustion, and no change in inorganic substances. By its acids it produces crystals from fluid matter; by its action on blood, it brings about a constant change and renovation of the tissues, and so sustains the life which it initiated, for it was the first to enter into us at birth, and is the last to leave us at death.

But other forces besides the initial one have to be brought into action; for every being that has life, moves, and consequently brings about a waste of tissue which has to be replenished by aliment of some kind, and with this, must act also those unseen forces, chemical or galvanic, which enable the food to become a part of the particular organism which has to be sustained and renewed. This replenishment must be sufficient not only to supply the ordinary waste of tissue but also to give an excess of force, so as to be able to resist outward obstacles and dangers; for, however well the original wants may be provided for, there often arise circumstances which cannot be foreseen, nor consequently guarded against, and which tend more quickly to exhaust the individual resources. A tree, for instance, having had plenty of moisture and a mild winter, will put forth buds early in spring; then comes a sudden night of frost that no one can foresee, and the flowers or buds are nipped and die; the tree by this becomes exhausted and throws out very few more buds that year, and, possibly, if the frost be very severe, the tree itself suffers in health, and cannot produce vigorously again for two or three years, and may even gradually sicken

and die. In this case, some other unseen and stronger force overcame that which constituted the life of the particular individual.

In all things in which action is concerned, the greater the complications, the greater is the uncertainty as to the results and to the difficulty of calculating those results, as is seen in the science of meteorology. But these occult forces are, it will be observed, all produced from matter, or exist in it, and are developed either in nature itself, or by the agency of man in bringing those substances together which have certain affinities for each other: in all cases by very simple and material means.

A. H. IVENS.

THE LATE HENRY FAWCETT, ESQ., M.P.*

THERE are so many open (as we may call them) and striking proofs of phrenology, that they should tell powerfully with those who are seeking for the truth, and lead them to investigate further. Some, however, are wilfully blind to phrenological facts, as, indeed, they are to all facts which do not accord with their philosophy (if an opinion compounded largely of ignorance and prejudice can be called by such a name); they have been taught to disbelieve it, and as they never venture to investigate or think for themselves they are quite content to repeat the word "humbug" because some parrot before them repeated it. We are constantly hearing some of these disbelievers cry: "It can't be true, because So-and-so has proved the brain to be so-and-so." Although the views of anatomists and physiologists with reference to the structure and functions of the brain are changing almost from day to day, and have been for the last twenty-five years especially, yet these pretenders to absolute knowledge constantly argue as if they knew the brain, its structure, and its functions, as well as they know the contents of their own bread-baskets. Lord! how intimately they do know all about the brain. And yet take up one of their books on the subject —how vague and unsatisfactory! There are many patient and admirable workers in the field of cerebral anatomy and physiology, and they are doing good work; nor have we any fear of any truth they may discover, let it be in favour of or against phrenology; provided it be established as truth, we

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will hail it with delight. What we deprecate is their jumping beyond their rule and line, and because they cannot find on the surface of the brain spaces chalked out and labelled, as the phrenologist labels his bust, their crying out, "Look here! there are no divisions here, no labels! What can you think of the imbecility of these phrenologists?" They remind one of the little girl who was incredulous when told that she was standing on the borders of two counties because she could see no difference of colour as on the maps. If these men would only read and take to heart the Fable of the Shield!

But Mr. Fawcett is waiting. Look at him, and say if, judging of him phrenologically, his head does not agree with his known character. Could that head be the head of an idiot? Did you ever see an idiot with a head like that? Could he, with such a head, be an ordinary common-place man? and especially with such a physique as he has? His body indicates a powerful man in every way. He is tall, weighs heavy, and is well filled out. He has a well-proportioned body and brain, and there is harmony in size between his face and head. All the features of his face are well marked and regular. His head is large and well rounded out in every direction. The versatility of talent for which he is known is indicated in a most distinct degree by the round, full swell of the head in the region of the temples. He is equally at home in various departments of life and labour, and is able to probe a subject, and go far beyond mere surface ideas. He penetrates, like the true artist or mechanist, into the core of his subject, and gets hold of hidden truths, and brings to the surface unfamiliar thoughts, masters complicated subjects, and makes every part fit like a perfect machine.

It would appear as though all his powers of mind were wide awake, and as though he took everything into account, and made everything dovetail most perfectly together, every part fitting every other part, which could not be done without large Constructiveness joined to the adjoining organs. Order and Calculation are very large, as indicated by the size of the outer corner of the eyebrows. They give system, method, knowledge of numbers, and power to make up estimates, to calculate profit and loss, to arrange materials, facts, and knowledge, so as to make the most and best possible use of them. The side view of his head and face represents the frontal lobe very long and the intellectual lobe unusually large, the perceptive faculties especially so. Without the aid of his eyes he sees mentally everything in detail, and gets very correct ideas of things, their qualities and uses, and is equally well qualified

to individualise different qualities of mind and their distinct action.

His very large perceptives faculties give a practical bearing to his intellect, and render him definite and precise in all his mental operations. His large brain aids him to grasp the whole subject, to take in the entire situation, and to master with equal ease and accuracy, either the general principles or the details. He has the organisation to excel equally well in the exact or natural sciences. He has most accurate ideas of space, shapes, outlines, and distances, as well as of time and duration. Sense of sound, of melody, and harmony, is fully represented, and he is much annoyed by discord.



The central part of the forehead is very large, which gives him consciousness of actions, events, history, experiments, performances, and modes of doing things. It enables him to carry many things in his mind, and to bring his knowledge to bear in a definite and concentrated manner. He could write a play embodying a great variety of character and action, or he could write a stirring novel. He fills everything with life and action, and is direct and to the point in all he says and does. The reasoning brain is absolutely large

though relatively not so large as the perceptive faculties. His mind works up from facts and details to high and comprehensive principles, rather than down from abstract ideas to facts. He sees what is wanted first and then seeks the principle to be applied. He remembers facts as the foundation of his theories or philosophy, and is particularly good at analysing, comparing, combining, criticising, and applying principles that are involved. He is very quick to see the bearing of a principle and to take a hint, and is quite intuitive in discerning shades of difference in character and motives of action, in perceiving truths in nature, and in taking note of the signs of the times and of the movements of individuals and nations. He forms opinions with wonderful quickness and accuracy, and would have made a first-rate judge in a criminal court, because of his superior memory, comparison, and intuition.

His full head around the ears indicates force and great executive power, industry, economy, and reticence, when necessary. The height of the head indicates an elevated tone of mind, good moral principles, strong sympathies, a respectful regard for others, versatility, and gentleness of manner, as well as a youthful, pliable, entertaining disposition.

Such an organisation as his indicates great capacity in a scientific, literary, mathematical, moral, and executive direction ; and a man so endowed could hardly fail to make his mark, and fill a large place among his contemporaries, unless as a young man he had been utterly ruined by his bringing up and surroundings.

Professor Henry Fawcett, son of W. Fawcett, Esq., J.P., of Salisbury, born 1833, was educated at Trinity Hall, Cambridge, of which he was a scholar ; graduated in high mathematical honours in 1856, and was elected a Fellow of the Society in the same year. Mr. Fawcett was totally deprived of his sight by an accident when out shooting in September, 1858. Having written and published "A Manual of Political Economy," the "Economic Position of the British Labourer," 1865, and having been an extensive contributor of articles on economic and political science to various magazines and reviews, he was elected in 1863, Professor of Political Economy in the University of Cambridge.

Mr. Fawcett unsuccessfully contested, on Liberal principles, Southwark in 1857, the borough of Cambridge in 1862, and Brighton in February, 1864; was returned for the last-mentioned constituency at the general election in July, 1865, and was re-elected in 1868. He was unseated at Brighton at the

general election of February, 1874, and was elected for Hackney in April of the same year. A new and revised edition of his "Manual on Political Economy" was published in 1869, with two new chapters on "National Education" and "The Poor Laws and their Influence on Pauperism," and another edition, with some additional chapters, was published in 1874. Mr. Fawcett afterwards published "Pauperism: its Causes and Remedies" (1871), "Speeches on Some Current Political Questions" (1873), and "Free Trade and Protection" (1878).

Having been re-elected for Hackney at the general election of 1880, Mr. Fawcett accepted the post of Postmaster General in Mr. Gladstone's administration; a position the tenure of which he signalised by many useful reforms.

Professor Fawcett married Millicent, daughter of Newson Garrett, Esq., of Aldeburgh Suffolk, on April 23rd, 1867. Mrs. Fawcett, who was born in 1847, published in 1869, "Essays on Political and Economical Subjects," and in 1874, a little volume of "Tales in Political Economy." Mrs. Fawcett has taken an active part in advocating the extension of the Parliamentary Suffrage to those women who fulfil the qualifications of property and residence demanded of the male elector.

By his premature death on the 6th of November, a notable figure was removed from the sphere of Parliamentary life. Short as was Mr. Fawcett's official career, it was yet sufficiently long to prove that he possessed no small share of administrative ability. It has been said that the academic mind fails when it comes to grapple with the details of practical work; but Mr. Gladstone's Cabinet contains more than one member whose experience contradicts this assertion. Certainly the statesman who was cut off at a moment when it seemed that further possibilities of political usefulness were opening out before him, was signally successful in grasping the duties of his office, and in carrying them out to the satisfaction of the nation at large. During his tenure of the office of Postmaster-General, Mr. Fawcett demonstrated his capacity for dealing with the complicated business questions which constantly arose for settlement, and he infused more life and vigour generally into his administration of the Post Office than was the case with many of his predecessors.

In conclusion, it may be said that Mr. Fawcett's success was largely due to the fact that, alike at Cambridge as elsewhere, his motto seems to have been "*mens sana in corpore sano.*"

UNCLE ABRAHAM'S TALKS.

WHEN I first made the acquaintance of "Uncle" Abraham my age would have divided into his four times without a remainder; and yet I had no small opinion of myself, and thought I ought to be treated as a man. I daresay I was very foolish, as youths of that age usually are; nevertheless I had an open mind to learn, and would have parted with my money—what I had of it—freely to any one, be he sweep or tramp, who could teach me anything I did not know. It was this trait, I think, that made Uncle Abraham and me become such fast friends.

The manner of our striking up an acquaintance was this: I used to go out early in the morning with a book, and the old gentleman just as regularly took his matutinal walk accompanied by a couple of dogs. We often met, but never spoke to each other, until one morning I happened to be sitting on a stile reading, quite unconscious of any one being near, when I was suddenly startled by some one accosting me with—

"Good morning, Johnny!"

It was Uncle Abraham.

I replied: "Good morning, sir! But my name is not Johnny."

"That's queer," he returned.

"What's queer?"

"That you should not be called Johnny."

"Why?"

"Because I have been calling you Johnny this—I don't know how long. I always look out for you, and when I see you coming I say to Bobus and Flo: 'Here's Johnny coming; but he doesn't see us, because he's got his head so deep in his book.'"

He said this with such a pleasant smile that I may almost say I was in love with him at once.

Dear old Uncle Abraham! How long it is since that first summer when we used to meet so joyfully, and talk so confidingly of all things under heaven; and yet your wise words are as fresh in my remembrance as though they were uttered but yesterday. I can see your bright, honest face, with its cheery smile, as it used to look down upon me in those days, and hear your silvery voice and genial laugh, and almost fancy I am a boy again.

Do you remember that first morning how you asked me if I never read in "the big book," and I asked you what "big book?" and you replied, waving your hand from east to west, "This book—the book of the world?" I do; and well do I mind how many things you pointed out to me that morning that I had never before noticed, and never should have done, I doubt, but for you.

That was only the first of many walks and talks Uncle Abraham and I had together in the old days; and I believe that from no other single source have I gained so much sterling good as from my

dear old friend. One great benefit he did me was to teach me to think for myself. It was a saying very often on his lips : "A man is nothing if he is not reasonable." Another of his sayings was : "Common sense is a jewel ;" sometimes he would add : "which many a man misses while filling his head with learning."

The truth is, Abraham had been largely a self-taught man, and he did not think a great deal of ordinary "book knowledge." He used to say a pinch of experience was worth a peck of learning.* Not that he despised reading ; on the contrary, he valued books very highly, and was himself a great reader. In fact, he was, if we may use the term, a kind of epicure in reading, and encouraged a similar taste in others. He was accustomed to say, the best friendship a young man could form was a love for good books. I remember asking him once what kind of books he would most recommend a youth to read. I made a note of his reply, as I used to do of most of his talks. It is as follows :—

"U. A.'S TALKS ON BOOKS.

"It is of no great moment what kind of books a youth reads, so long as their tendency is good and healthy. Let it be history, biography, science, travels, philosophy, or poetry—it does not much matter so long as his reading leads him to love and to desire to imitate good men and women ; if it does not do that it does harm.

"History enlarges the mind ; biography is stimulating ; science strengthens the understanding ; travels are entertaining and instructive ; philosophy—of the right sort—elevates and purifies the soul (and in speaking of philosophy I include theology) ; while no one can peruse a good book of poetry without being greatly benefited by it. A youth may do himself harm, and unfit himself for practical life by indulging in too much poetry ; but if a man has not got a good vein of poetry in him he does not rise much above the gross animal strata of his nature."

Here is another of my notes of his talks on books :—

"A youth can have no greater safeguard against vice than a deep love of books. Equally potent for good is an abiding love of nature. I do not believe that a man or woman ever became very bad who had an honest love for flowers ; and books, I take it, are a guide and incentive to this."

I should say that in regard to books Uncle Abraham had some strong prejudices ; in no other direction did I find him to have prepossessions so strong. He had an antipathy to modern authors, and though he occasionally "dipped into" them, he said he found them trivial and insincere. He used to say that there was more wisdom in a page of an old author than in half-a-dozen volumes of a modern. Where he drew the line between the old and the new I never discovered ; but I rather fancy, according to him, the "oldens" passed away with Dr. Johnson—"grand old Samuel," as he called

* Cicero says : "Use is above all teaching."

him. I think, moreover, when he spoke of the old authors, he had mainly the great lexicographer and essayist in view ; though Bacon was a favourite of his, and the old essayists generally, chief of whom were, of course, Addison and his coadjutors of the *Spectator* ; and if Johnson was his daily bread, these latter were the “honey that crowns the repast.” Of the poets, he seemed to have no great admiration for any but Shakespeare and Pope. A strange contrast, truly. The latter he admired for his polish and the terseness of his style. How often, quoting a favourite couplet—as, for instance :—

“ ’Tis the first virtue vices to abhor ;
And the first wisdom to be fool no more,”—

how often would he exclaim : “ It would take one of your modern poets a whole page to express as much as is contained in those two lines ! ”

But Shakespeare was incomparably his favourite, about whom he would discourse by the hour, and eloquently and discriminately too. There was that in him, he used to say, that made him a friend to all. No matter what your mood, he had something suitable to your case. “ If you feel mean, he will elevate you ; if dull, he will cheer you ; if you are ambitious, he will humble you ; if too lowly, he will stimulate you ; and he will do all this as none other can. At one time or another we all need the benefit of such influences ; we need to be lifted out of the every day and the common-place, which otherwise must surely drag us down.”

Another “ note ” which appears to bear on the same thought is the following :—

“ THE VALUE OF CHEERFULNESS.

“ Avoid getting into a rut and sticking there ; nothing so deadens and enervates the mind. Don’t try to be always doing, because nature can’t stand it. When you’ve done a good day’s work, rest and be cheerful.”

Uncle Abraham was never tired of urging the necessity of cheerfulness ; it was, he said, nature’s best medicine. I remember once, when out walking together, our meeting a sickly-looking young man, whom Uncle Abraham addressed as Blackley, asking “ how things were looking now.” “ Oh, very bad, sir,” replied the young man. Whereupon my Mentor, as I was pleased to call him, finding on inquiry that it was Blackley’s way of looking at things that made them appear black, read him a quiet lecture on the duty of cheerfulness. “ My friend,” he said, “ if you will only pluck up a little spirit, you will find things much brighter than you think. Do you know, when I was about your age, I worked myself into a similar state of mind to yours. I even meditated suicide ; but a feeling of shame came over me, and I began to reproach myself with my cowardice. I there and then resolved never to allow myself to fall into such a degenerate mood again, but to look trouble and evil straight in the face, and do battle with them when they came. The result was that I always found the threatened evil less than I imagined, and often I

found that it never approached at all, but faded as I advanced. And take my word for it, you will find it the same. Don't look too far ahead ; the distance is always dark. A shorter view of life is the wiser course, and greatly aids to cheerfulness. Moreover, if you are gloomy long at a time, you may be sure there is something wrong with yourself, and you need to take a brisk walk, sing a song, or consult the apothecary. If you are inclined to mope, take some magnesia."

But to return to my interrupted note :—

HOW TO BE IDLE.

" You may oftentimes," continued Uncle Abraham, " do yourself more good by a day's, or even a week's idleness, than by the most arduous industry. I don't mean the idleness that lies abed all day, or that puts the hands in the pockets and lounges at street corners : to be idle pleasantly and profitably you must do something."

N. (N. means the writer) : " Has not someone else said something like that ? " (A saying of Sydney Smith's was doubtless running in my mind.)

" Likely enough," replied my Mentor ; " the thing is so plain that it must have struck hundreds of reflective minds before it occurred to me. Indeed, it was no original thought on my part, but was suggested by an old friend. He was, at the time of which I speak, a watchman on a gentleman's estate that lay on the outskirts of the town, where a lot of idle vagabonds were always prowling about. His duty, as he one day told me, was to ' permeate ' the place, so as to warn these fellows off. I remarked that he must have a deal of idle time on his hands. He said he had ; and at first he was very hard set to pass it comfortably ; but he succeeded at last by getting an English grammar, and committing it bit by bit to memory ; and when he had finished the grammar, he tackled an arithmetic, and mastered that too, making all his calculations mentally ; so that when I first made his acquaintance he was a peripatetic Cocker and Morrell combined. That was one way of passing idle time pleasantly and profitably."

A ROCKY MOUNTAIN SERMON.

TIME, Sunday ; place, Leadville, Colorado ; scene, a religious service being held in that liveliest of Western American mining towns. The building was used as a variety theatre during the week, but on Sunday it was swept up and put in order for the purposes of a church.

A rude platform, made by laying some lumber along on the heads of several whisky barrels, stood for a pulpit, and plain wooden forms furnished sitting accommodation for a congregation made up of individuals, the majority of whom came under the denomination of what the Americans know as " hard citizens." They, however, all assumed an air of grave and serious attention.

Presently, a hard-featured looking man, whose weather-beaten exterior betokened the arduous life of the placer miner, entered, walked gravely along the passage, mounted the platform, deposited a Bible and hymn-book on a desk constructed out of two brandy cases set on end; and then gave out a hymn entitled, "A Day's March Nearer Home." The style in which this hymn was read would probably have driven Lindley Murray, had he been present, to the verge of distraction, yet, withal, the meaning of the words was brought out with peculiar force and clearness.

At the conclusion of the reading, there rose to their feet, immediately in front of the platform, what proved to be a well-trained vocal and instrumental orchestra, comprising twenty persons; and the harmony produced in the interpretation of the music attached to the simple hymn was something to remember. Rough-looking men and working lads formed a double quintet of voices, whose rich quality and musical accuracy contrasted strangely with the rough appearance of the singers; and the instrumental portion of the band, which included a first and second violin, a violoncello, a cornet, a flute, piccolo, and banjo, can be referred to in equally complimentary terms. Listening to this orchestra, one was compelled to acknowledge the overwhelming power of music, and to account for the main reason why so peculiar an audience had met together ostensibly to take part in a religious service.

"Music," indeed, "hath charms to soothe the savage breast," one was impelled to say while glancing round this strange church. Here, you could mark the reckless professional gambler; there, the rough but honest miner; on the one hand, that peculiar combination of generosity and meanness, of dare-devil courage, and superstitious ignorance, the cow-boy of the western plains; and, on the other hand, the pitiful drink-wrecked loafer known in the States as a "Bummer."

At the conclusion of the hymn the preacher rose, and said:—

"Friends—The reg'lar preacher, as you are aware, has gone down to-day among the boys who are working the new carbonate mines at Gunnison, and I have been appointed to take his hand and heave it for all it's worth.

"To many of you present, it won't be necessary to tell you that I'm kinder new to this business, but I don't believe there's a rooster in the camp mean enough to take advantage of my ignorance, and cold deck me on the first deal.

"I have been reading in this yer Book that yarn about the prodigal son, and I will try to tell you the story. The Book don't give no dates, but I guess it happened a considerable spell back in history. It seems the prod's father was pretty flush with the stamps, and a real good sort into the bargain, as he always shelled out freely when the kid struck him for a stake, and never bucked at the size of the pile neither, so long as the boy heaved in hearty on the ranche, and generally behaved hisself handsum.

"But by-and-bye the kid began to get restless, and wanted to

rustle out on the travel, so he got the old man to ante up in advance of the death racket, and let him go. He no sooner got his divy in his fist than he shook the ranche, and spread himself out to take in some of the far-off camps. Wal, according to the Book, he had a way up time at first, and slung his coin around as if he owned the best paying lead within a thousand miles of Denver.

"But, my friends, this game didn't last for ever. Hard luck struck him at last, and the prod is found in one of his sober intervals remarking in a confidential way to one of his chums : 'I say, old pard, I'm bursted clean down to the bed rock, an' them's the cold-blooded facts.' The Book don't say what the prod went broke on, but prob'ly he steered up against some brace game. Be that as it may, however, he was so beautifully cleaned out that he hadn't a two bit piece left to go eat on.

"In this condition he struck a ranche belonging to an old granger, who, taking pity on the poor busted prod, gave him~~a~~ a job of herding hogs. The granger wasn't a bad old sample in a general way, but he was inclined to be kinder mean on the feed, and so it came that the prod got so frightfully sharpset for a meal, he had to go whacks in the hog-trough. You bet, the kid who in his flush times had been boosing round among the best of everything, like a silver king or big railway monopolist, had now plenty of time on his hands for doing a tall lot of thinking, and one day he said to himself, 'I'll just ding this business. Why, even the meanest help in my old governor's hired service is living on square grub, and plenty of it, while I'm worrying along here on a shook lunch. I know what I'll do. I'll just skip back home to the old man, and ask for a new deal.'

"So away he went, but he had a hard time reaching the old ranche, and don't you forget it. When you have plenty of coin, my friends, everybody's pleasant, but when you're on the borrow you don't find it so good. Finally, he did strike the familiar trail leading down to the old home, and while crossing some open lots, the old man, as the Book puts it, saw him a coming 'afar off.'

"Yes, my friends, that old man's eyes were very dim, but he did not fail to spot his boy 'afar off.' And what d'ye suppose that prod's father did? Did he whistle the dogs up to chase him off the ranche? You bet he didn't. Did he go and take down his shot gun, and wait till he got him within range, so as to get a good drop on him? You bet he didn't. No, but I'll tell you what he did. He just waltzed right out of the gate to meet him, and froze to that poor scarecrow right on the spot, and fell to kissing of him, and weeping over him, and calling of him his poor long-lost boy, until the prod got broke all up, just like a sluice dam when the snow comes down off Pike's Peak under a July sun.

"The old man then took him right away to a clothing store, and rigged him out in the costliest suit to be had for coin, put an elegant ring on his finger, ordered the fattest steer on the ranche to be slaughtered, invited all the neighbours in, and had the biggest blow out that camp had ever seen.

"Now, it appears the prod's elder brother was out at work with the teams, and when he came in he asked some of the helps what was the meaning of the picnic they were having inside, and when he was told the reason he just got real mad. The old man hearing of this went out to him and said : 'Come in, lad ; your brother's come back, and we're having a regular old-fashioned jubilee ; now you come right along, like a good fellow, and take a share in the break-down.' But the brother wouldn't budge, and said to his father : 'Look here, dad, I have stuck to the ranche, and have never gone back on your orders, but it never struck you to have a picnic of this kind until you give it to a Hoodlum who has disgraced our name.'

"But, my friends, you make your bets on it, that old man had a level head, and was not to be easily bluffed. He says : 'My son, you say you have never gone back on my orders ; but are you quite sure that's so ? I tell you that you have gone back on me real mean by your unbrotherly and uncharitable behaviour. You may count that your service is square up on the strict contract, but I tell you it don't fill the bushel worth a cent so far as brotherly spirit is concerned. The spirit you are showing, my lad, is the one that leads to narrow-mindedness, to bigotry, to intolerance, and to fooling round and burning folks because they don't fix their worship up just accordin' to your perticler notion.' And now, friends, it is to the credit of the brother that he took his old father's square talk in good part, and you bet that old man was a real thoroughbred, and don't you forget it."

Facts and Gossip.

THE following is a description of the mode in which Mr. Gladstone shakes hands, as described by a well-known London journalist. The Premier, according to this observer, "performs the operation of hand-shaking in three stages. First, he takes your outstretched member softly in his grasp, so that the fork of your stump and the fork of his are in the closest possible contact and alliance. Then you learn that the Premier's hand is cool, soft, and elastic ; full of tiny muscles and bones, and all alive, as it were. There is reassurance, invitation, and interrogation, cordiality, zest, and confidence. And now comes the grip, which is the second stage of the process : it is firm and decisive, and lasts as long as it takes the Premier to inquire after your health, and to welcome you, if you are welcome. Lastly, you are released with a sorrowful clutch, that delays the departure of your finger tips to the last fraction of a second. This is how Mr. Gladstone will salute a friend and political adherent. His way of shaking hands with a political opponent—say, the Marquis of Salisbury—I can tell you nothing whatever about."

By the bride which a man selects does he show the quality of his soul, and what value he puts upon it.—*Goethe.*

Correspondence.

To the Editor of THE PHRENOLOGICAL MAGAZINE.

Melbourne, Australia, Oct. 2nd, 1884.

SIR,—Having been requested by you to give my opinion of the delineation of the two Australian worthies* I sent you, I cannot do better than refer you to an enclosed clipping of the *Otago Daily Times*, of Friday, May 23rd, as the following comparisons will show:— You say: “He is a man of intellect, but it is of the practical type;” the *Otago Times* says: “He has no pretensions to be a genius,” but “is probably the best example in Australia of the merchant politician.” Again, you say: “He does not deal in abstract principles so much as in ‘facts’;” the *Times*: “the shrewd man of business.” Again, you speak of him as “a great systematiser,” &c.; the paper, as one “who has brought to the administration of public affairs the same qualities (‘great tact and judgment’) which have enabled him to do well in private life.” With, “He is a man of great will, great resolution, and immense working power,” compare, “He has shown great capacity in the management of the Annexation, Federation, and Recidiviste questions,” &c. Again, you say: “He is from a family noted for its working power, and for its long life, and if he does not break his back or happen an accident, he will live to exceed the normal threescore and ten years.” I have no hesitation in affirming that these remarks, also, are quite correct, his father having died quite recently of a good, ripe old age. “He is a social man, fond of company, and he is able to adapt himself to all classes of society.” His early besetting sins appear to have arisen out of his large social brain. As to the rest, I would again refer you to the latter part of the newspaper clipping already alluded to.

As to the delineation of the Bishop, the enclosed report of his lecture on “The Influences of Christianity” will amply testify to the accuracy of your conclusions. Verily, “his mind opens up to things unseen, and there is a reason in the operations of his mind that transcends the bounds of ordinary logic”: hence, he is rarely understood. In conclusion, I have no hesitation in testifying that the delineations of these two persons have been given with remarkable accuracy, and are, withal, surprisingly justified by what is privately and publicly known of them.

The quotation referred to is as follows:—

“Mr. Service’s honours are well deserved. He is probably the best example in Australia of the merchant politician—the shrewd man of business, who has brought to the administration of public affairs the same qualities which have enabled him to do well in private life. He has no pretensions to be a genius, but he has shown

* The delineations referred to appeared in the Magazine for February, 1884.

marked capacity in the management of the Annexation, Federation, and Recidiviste questions, and deserves credit as the Premier of the most useful Government there has been in Australasia for many years. In politics he has always been moderate, and as a financier he has acquired considerable reputation. It may be remembered that he led the Constitutional Opposition in the Lower House against the notorious Berry Government with great tact and judgment."

Answers to Correspondents.

[Persons sending photographs for remarks on their character under this heading must observe the following conditions :—Each photograph must be accompanied by a stamped and directed envelope, for the return of the photographs ; the photograph, or photographs (for, where possible, two should be sent, one giving a front, the other a side view), must be good and recent ; and, lastly, each application must be accompanied by a remittance (in stamps) of 1s. 9d., for three months' subscription to the MAGAZINE.—ED. P. M.]

J. P. (Northampton).—That depends on individual opinion. Personally we do not think so.

R. P. R. (Stockton).—Is the photograph you sent a thoroughly good one? We think not.

A. G. E. (Aberdare).—This is a lady of some mentality. She has a large head; she takes after her father, and has rather a masculine type of intellect. She is noted for her good judgment, for her common sense, and for her ability to turn her experience to account in many ways. Is very affectionate and companionable, and will make a loving and devoted wife. Will be somewhat jealous, however, and will want a little of her own way. Is very cautious; is energetic (would be too much so for a lazy husband), and possesses some temper. Should be a good cook.

J. M. (Exor).—You appear to have more than common musical ability, and some literary ability, but I should give you more of the former than the latter. Your literary gift is worth cultivating, but it will show to the best advantage later in life. You have wit and imagination, and some humour. Have good language also. What you want is the wedding of them the one to the other. You would do well to cultivate music. But, as a whole, you ripen slowly.

J. M. (Ayr).—You will never make a real orator, but you have the capacity to make a good and rather easy public speaker; but your matter will come more readily than your words. You have considerable intellectual ability; are clear-headed, critical, quick to see a point, rather witty, and quite argumentative. Your faults are rather those of perception and arrangement than of comprehension. Are almost too kind-hearted, and few are more sociable. For all that, you would like to see the world from Kamschatka to Peru.

J. D. (Sheffield).—A very practical common-sense man; shrewd, observant, critical, and with a clear ready judgment in the line of

his experience ; witty, quick to see a point, and to get in a reply ; argumentative and convincing, though not particularly imaginative ; perhaps, in argument, a little too much inclined to break a butterfly on the wheel. Has more knowledge than language ; learns not easily, but well ; is orderly, systematic, and has good powers for practical business where a perceptive, calculating, constructive mind is needed. Rather suspicious, not quick to give confidences ; social, kind-hearted, moral ; has of temper a good share ; is quite obstinate in carrying out his own ideas ; proud, rather dogmatic, and fond of a fight—intellectual, of course, now, but as a youth did not so much mind seeing a dog-fight, perhaps. You will do, sir !

J. R. M. (Chester).—Not a badly-shaped head ; shows some good points, but its goodness is likely to be its weakness. The intellect is not sharp enough, perceptive enough, covers too much ground ; but it is fitted for scholarship, and for a sphere that requires judgment. The moral organs well developed ; and you should be known for displaying a decidedly superior moral tone of mind. There is a decided tendency to the spiritual outlook, and if you have not seen or spoken to spirits, you have come as near thereto as most men. But you are not all goodness ; there is temper mingled with the other qualities, and passion (plenty of it), and appetite and obstinacy, although you may guard them pretty well. Have a good constitution ; indeed, the purely vital powers seem to be almost too strong for the mental, making you, as a rule, too easy-going and contented. Rather a silent man, too !

W. M. (Glasgow).—You possess more than common ability, and should, if only out of curiosity, try to find out more about yourself than can here be told. If only you will put forth all your native energy in the steady pursuit of any object you may choose to set your mind upon, you will be sure to succeed. It does not much matter whether it is literature, science, art, or anything else, so long as it gives fair scope. You have superior intellectual gifts, and only need to put them steadily to work. But don't be impatient, and don't overdo.

D. J. (Tredegar).—Quite an odd kind of a man. Like no one but your own self ; but shrewd, knowing, and with a deal of an out-of-the-way kind of experience. Rather suspicious, taciturn, not quick to give confidences ; not very free to spend your knowledge, but neighbourly, serviceable, and not unsympathetic. But your best ideas and impulses are always somewhat of an afterthought. You were probably born rather late in the day. Those who know you the best esteem you the most, for you are social, affectionate, gentle to women and children, and to all things young and tender. A man, in short, of much practical ability, able to turn your hand to many things, and generally able to find a way to do a thing. There are many things in your town that nobody can do but yourself.

J. A. (Fresno).—It will take you nearly all your time to keep full account of yourself. You are not an evenly made-up young man. Your head seems to be built somewhat after the pattern of your

western mountains: there are hills and valleys. The hills are strengths, the vales weaknesses; but if you keep the bridle-hand well in, you will probably come out all right, for you have good sense, plenty of will, and you know the straight course. Check your temper, don't be rash, sleep on most new impulses, and try to be evenly cheerful, rather than occasionally hilarious. You have a gift for saying sharp things that sting like a wasp; keep them at home, or they will return and trouble you. There is a lot of work in you, and you should work, or you will drift into mischief.

T. P. (Southampton).—You possess a well-developed head in most parts; it would be well, perhaps, if you had more general energy and memory, and a little more spirituality. It would be well for you also physically if you had more general stamina. You are cautious, careful, rather painstaking and conscientious. You are firm, rather manly, and fitted to take your place as a man among men. You will be characterised for practical common sense.—The lady has a fair constitution, and, so far as can be judged from the portrait, has no lack of general intellectual ability. It is doubtful, however, whether she will be able to take much scholarship; still, she is sharp, quick to take an idea, has a good memory, and has good general understanding. She learns quickly to do different things, and will never be of the dull and stupid kind. She will make a good house-keeper, a good cook, and a lively and entertaining companion. Sometimes, perhaps, may show too much temper, too much will, and be a little too irritable; but is sociable, and quite fond of home and children.

A. B. S. (Brighton).—This photograph does not allow us to judge much from the phrenology; the face, however, indicates more than common perceptive intellectual ability. The lady is a wonderful observer, never forgets a person, a place, or an object that she has once noticed, and can remember and describe them years after with as much clearness as if she had seen them but yesterday. She is a good judge of proportions, sizes, &c., and must have things to agree one with another; she has also a very acute sense of weight and balance, and should make an uncommonly good dancer, rider, &c. She is very orderly and systematic; she takes after her father, or her father's side of the house, and has a great many of the masculine qualities, particularly those of an intellectual character. She has good taste and is fond of style. She comes from a long-lived ancestry; is full of life and health, spirit, and vivacity. The company is never dull where she is. She is a good talker, and, indeed, must talk if she is well. She could make a public lecturer or a writer.

M. E. (Aberdare).—There is no reason why the youth should not succeed in the line you mention. There is no particular fault in his mental organisation, except that he might be more observing, more orderly, a little quicker in his movements, and a little more polite and attentive. He is hardly talkative enough, and would do well to study elocution and how to express himself easily and pleasantly.





